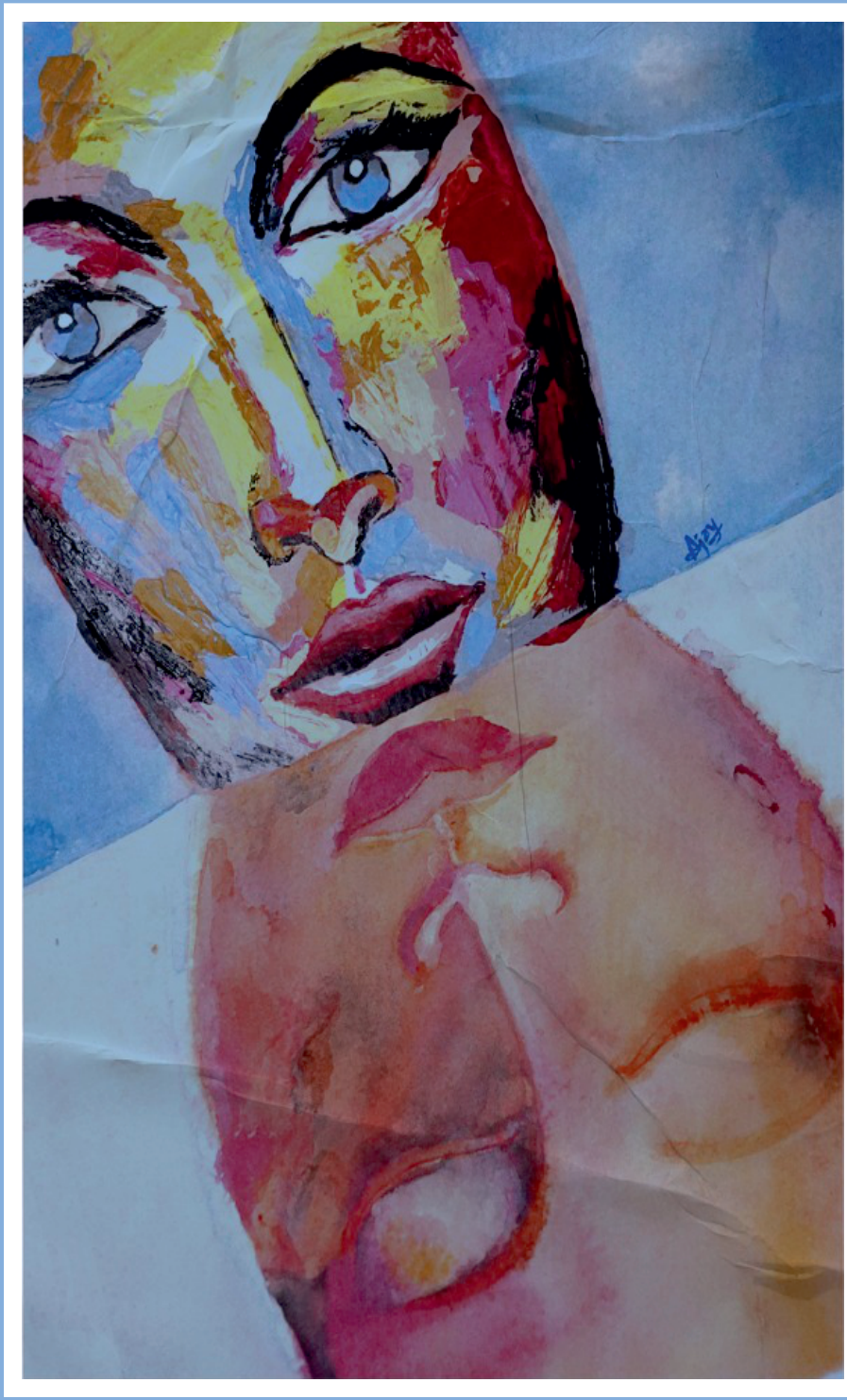
Essentials of Psychiatry for Dermatology and Aesthetic Practice



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Essentials of Psychiatry for Dermatology and Aesthetic Practice

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Foreword

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"Our inner mind is deeply connected to the way we appear to outer world. The inner self tries to match to demands of the outer world by acquiring many colours"

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Dedication
to

My parents and teachers
for all the inspiration and guidance
My department colleagues
for their constant support and encouragement
My students and patients
who inspire me to learn more
- Dr Ashwini PK

Dr K Lakshmana Rao
A well-known Dermatologist from Bengaluru
Who travels miles every month to offer free service
& I had opportunity to witness his care and dedication
To my colleagues in dermatology at JSS Medical College
Who have offered me opportunity to learn
Dr Sunanda Kulkarni & Smt Sudha Murty
Who have inspired me to work passionately for the deserved

- Dr M Kishor

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Foreword

Dermatological disorders have definite relation to many systems of the body. The manifestations may be indicators of some internal diseases. Thus skin is called the mirror of systemic disease. The psyche plays an important role in various dermatoses. Skin diseases, irrespective of their seriousness, may cause psychological disturbances. Vice versa is also true where a psychological disorder may present with or induce cutaneous manifestations. The effect on the psyche of person with skin diseases is much more than any other disease as the disease is visible and often causes social problems due to the myths associated with these diseases.

There is an urgent need to understand the interplay between psyche and skin diseases. A comprehensive book on that subject is a need of the hour. The knowledge of this interplay will aid us in managing these patients effectively . Such book becomes interesting when it is authored by both dermatologist and a psychiatrist. Knowing the clinical features leads to an early diagnosis which in turn leads to an early intervention.

The editors and authors are an excellent blend of expertise and knowledge on this subject. Chapters have been well written for easy understanding by the reader. The book will be a good guide to both dermatologists and psychiatrists in handling patients more effectively.

It is a pleasure to write a foreword to an excellent book like this with well compiled text.I hope all of us will read, understand and practice what is understood to the better of our patients.

Best wishes

Dr Jayadev Betkerur
President, IADVL 2021
Professor, Dept of Dermatology venereology and leprosy
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Preface

Clinician's in Dermatology and Aesthetic Practice come across numerous people who seek consultation and it is not uncommon for them to find a close association of skin and mind. Dermatological disorders usually present with a visible rash. Due to their visibility, the impact of these disorders on the sufferer is high. The diverse presentation and chronicity of these conditions enhance the stress levels in patients and their family members. Dermatoses like psoriasis, vitiligo, atopic dermatitis, acne and urticaria may be associated with a psychiatric sequel. Also, some primary psychiatric conditions may present with dermatological manifestations like factitious dermatitis. Compulsions involving skin, in disorders like trichotillomania are not uncommon in practice.

The dermatologists need to have a better awareness about the shadowing psychiatric problem. Essentials of psychiatry in dermatology and aesthetic practice will indeed add value to the everyday practice. The entire book is conceptualized in manner that professionals should find it easy to use the information in enhancing comprehensive services. More than two dozen well know professionals across nation have joined hands to make this book useful. It helps dermatologists to screen the patient for any underlying psychiatry problem which would need timely intervention. Different aspects like dermatological disorders presenting with psychiatry symptoms, psychiatry disorders presenting with skin lesions and drug induced psychiatry issues are dealt with. Liaison of dermatology and psychiatry can ensure well- being of such patients.

It is indeed challenging and learning experience for us as editors and we feel we could have done much better in editing this book; however, we have tried to do our best. We hope readers will send us critical feedback to improve in subsequent editions.

We are thankful to all authors for their valuable time and contribution. We are immensely thankful to Minds United Trust and Infosys Foundation for the funding. We are also thankful to our reviewers, language experts, colleagues and publishers who have made this book possible.

We are also pleased to inform all readers that proceedings from sale of this book will used for those activities that will address mental health in dermatology and aesthetic practice.

Looking forward for feedback.

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Contents

Chapter-1

Addressing Psychological Aspects of Chronic Dermatological Conditions

C. Udayashankar, M. Saritha

Introduction:

The Skin: The skin, the largest organ of our body, acts as a physical barrier between the *milieu intérieur* of an organism and everything in the external world. It protects an individual from the environment but also allows interaction with the environment. Skin is a complex and dynamic, organ that serves many functions like providing a barrier, protection from infectious microbes, thermoregulation, functioning as a sense organ, protection from ultraviolet (UV) radiation, wound repair and regeneration, and outward physical appearance.[1]

The Psyche:

Mythologically, PSYKHE (Psyche) was the goddess of the soul and the wife of Eros (Roman Cupid) god of love. The story titled **Cupid and Pysche**, written in the 2nd Century AD by Lucius Apuleius Madaurensis describes the overcoming of obstacles to the love between Psyche ("Soul" or "Breath of Life") and Cupid (Latin Cupido, "Desire") or Amor ("Love", Greek Eros '2), and their ultimate union in a sacred marriage. Psyche is evidently the personification of human soul, which is purified by passions and misfortunes, and is thus prepared for the enjoyment of true and pure happiness.

According to the American Heritage Medical Dictionary, psyche is a noun which might mean either (1) The spirit or (2) soul. The mind

functioning as the center of thought, emotion, and behaviour and consciously or unconsciously adjusting or mediating the body's responses to the social and physical environment (as used in Psychiatry).

The skin and the psyche:

The skin and the psyche have few things in common. The skin and the brain both originate from the ectoderm and there could be a possible relationship between the epidermis and the nervous system. They also function as organs of communication and sensory organs. The skin and the psyche each provide individuality to humans - the skin through its unique appearance, e.g., dermatoglyphics, and the soul through its thoughts, perceptions and memories. The skin and the soul reflect each other. Healthy skin and a healthy soul, are essential for individual physical and psychological well-being and self-confidence.[2,3]

Skin diseases are frequently accompanied by obvious changes in the person's physical appearance and this noticeable skin condition (for e.g. oily skin or scaly skin), may draw other people's attention and the sufferer has no control over what others know about their disease. This is in stark contrast to internal diseases which allow the patient to control what others know about their illness. The myths associated with skin diseases, like sexual causation or lack of hygiene as a causation of the skin disease, infectiousness of the skin condition, and skin diseases as a punishment from God for previous transgressions, usually cause others to behave negatively towards the sufferer and produces a deep sense of stigma, feelings of guilt and shame and also causes the patient to have a poor body image and low self-esteem. Since the skin seems to say something about the character of an individual, diseased skin often symbolizes sinfulness or impurity.[4]

The sufferers of skin disease acquire an organ inferiority that will determine the results of psychological/biological upsets in such a way that autonomic activity may be directed towards the weak organ, which is the skin.

The role of stress in skin diseases was recognized as early as the 19th century, when Hillier in 1865, implied that mental excitement, nervous debility and anxiety as the cause of eczema. In the 20th century it was found that emotional stress could influence the immune system resulting in cutaneous illness. Many studies have shown that emotional upsets and stressful life events can lead to onset of skin eruption, which could be due to pro-inflammatory cytokines released because of immune modulation by these psychosocial stressors.

Studies have shown that people with skin conditions avoid situations where their skin may be exposed. They also have higher levels of psychological and social distress, poorer body image and lower self-esteem when compared to the general population.

The confidence, of an individual with skin disease, to successfully manage the impression he/she makes, determines the degree of social anxiety. This is a mediating factor between the severity of a disfiguring condition and an individual's emotional reaction.[5]

In a study by Picari et al, it was found that of 277 dermatological patients free from psychiatric morbidity at their first visit to the dermatology out-patient department, the incidence of psychiatric disorders after 1 month was 7.6%, and it was even higher (13.6%) in patients with an unsatisfactory treatment outcome. Patients not improving with treatment showed three times higher the risk of developing a psychiatric disorder when compared to patients who improved with treatment.[6]

The same authors previously had showed a higher prevalence (more than 30%) of emotional disorders in patients with skin diseases like as acne, pruritus, urticaria and alopecia.[7]

Psychological aspects of chronic dermatological conditions :

Chronic skin diseases usually lasts from months to many years. Most of the times they are not life-threatening illness, and hence, do not receive the attention they deserve from the health-care-provider

or even the health policy makers, as funds are frequently diverted for illnesses that are considered serious. The psychosocial impact of skin diseases is often greater than other chronic medical illness, leading to compromised quality of life. These chronic skin diseases cause severe disability leading to significantly lower physical and mental function in those affected individuals.

Examples of chronic skin diseases include psoriasis, vitiligo, chronic urticarial, alopecia areata, lichen planus, eczema etc.

Skin disease may be precipitated or exacerbated by psychologic stress, and/or psychiatric morbidity. Skin disease may precipitate psychiatric illness. The prevalence of psychiatric disorders, like depression and anxiety, is quite high ranging from 25% to 43% among patients with skin conditions and this accounts for a higher rate of suicidal ideation (8.6%) among these patients.[8]

Diseases like psoriasis, atopic dermatitis, chronic idiopathic urticaria, alopecia areata and acne have a very strong psychiatric and psychosocial component. These diseases may be exacerbated by psychosocial stress. Psychiatric illness like depressive illness are frequently found as comorbid illness along with these skin conditions.[9]

Psoriasis:

The diagnosis of psoriasis has a major psychologic impact on patients' lives. Most of them feel depressed and anxious about having being diagnosed with psoriasis. They feel self-conscious, helpless, embarrassed, angry, and frustrated. There is around 5.5% prevalence of acute suicidal ideation in these patients. Treating dermatologists should continuously monitor the psychological status of these psoriasis patients as many of them may continue to suffer psychologically even after the severity of the skin disease has decreased, leading to improvement in physical appearance.

Psoriasis patients experience social disability due to the stress that is caused by the anticipation of other people's reactions to their

skin disease. Psoriasis patients tend to avoid public places or social events in order to avoid rejection which results from the fear of stigma or rejection which is a consequence of negative social experiences like being asked to leave the pool or gym etc.

Even interpersonal relationships are often affected with partners and family members. Most of the time, the increased psychologic pressure leading to a deterioration in their relationships.

More than one-third of psoriasis patients report a sexual deterioration even after clinical improvement of their psoriasis. Hence, the dermatologist should recognize that for a patient with psoriasis, the severity of psoriasis does not necessarily reflect the impact on quality of life. Among people who work, psoriasis causes loss of working days because of their disease. People with psoriasis also find it difficult to get a job or sustain a job because of their disease.[8]

Pruritus is the most common symptom and also the most bothersome symptom in psoriasis. The severity of pruritus in psoriasis and also the severity of the skin lesions of psoriasis are directly proportional to the severity of depressive symptoms and suicidal ideation in these patients.[9]Compulsive scratching can worsen psoriasis.

Atopic dermatitis:

Atopic dermatitis is a condition that is common in children. Children with AD have psychologic disturbance because of their disease and this leads to behavioural problems. Even the mothers of AD children feel more depressed, hopeless, and overprotective towards their infants. Young patients with AD experience stigmatization from their peers and this limits their recreational activities causing them to be introverts. When the disease persists into adulthood, patients may suffer from anxiety, neurosis and depression. They also develop a sense of anger and frustration because of their disease, leading to psychological stress and interpersonal relationships are adversely affected due to atopic dermatitis in adults. This includes a decreased

sexual desire in the patient and a negative impact on their sex life because of the appearance of the eczema and also due to the poor knowledge regarding contagiousness of AD. Atopic dermatitis increases absenteeism in school of the affected children, and in workplace for the adults/parents of affected children, who need to take their children to a dermatologist for consultation.[8]

The various psychosocial stress factors in atopic dermatitis can be summarized as follows: Itching, sleep disturbance, withdrawal of touching, 'allergic object relationship', diet modification stresses, disfigurement reactions like rejection, secrecy and aggression, underachievement, psychosexual difficulties and parental distress.[4]

Acne:

Acne vulgaris commonly involves the face and produces undesirable changes in the appearance of the face and this leads to psychosocial distress, as one of the main aspects of one's perception of body.

Acne can result in lower self-esteem and interpersonal difficulties, leading to embarrassment and social withdrawal, depression and sometimes even suicidal ideation. Hence, it is important to recognize the presence of clinical depression in the acne patient.

Social phobia or social anxiety may be seen in some adult patients with chronic acne. This could be due to the long-term impact of the interference of their acne in socialization during their critical phase of adolescence.

Even patients with mild acne can have body dysmorphophobic disorder, which is characterized by the preoccupation of an individual with an imagined defect in appearance or excessive concern to a minor defect in appearance. In some who are vulnerable even mild acne can precipitate or worsen the eating disorder bulimia nervosa. The binge eating may also cause flare-up of acne due to hormonal changes.

Acne patients also have high unemployment levels.

The psychiatric morbidity in acne is the deciding factor for the treatment modality offered for these patients, as even mild to moderate acne can have severe disability, leading to depression, suicidal ideation and completed suicides.

Even though oral isotretinoin is classically indicated in severe acne, treatment with isotretinoin has caused improvement in psychiatric morbidity, including depression in patients with mild-to-moderate non-cystic acne and cystic acne. Some case studies have suggested the opposite, a link between the use of isotretinoin and depression, suicidal ideation, suicide attempts and suicide, where the relationship was between isotretinoin and depression was proven by re-challenging individual patients with isotretinoin, but large scale epidemiological studies have failed to prove the link. The association between isotretinoin use and clinical depression seems to be a sporadic and idiosyncratic one and not dependent on past history of depression or past history of usage of isotretinoin without any adverse effects.[9]

Acne can be associated with obsessive compulsive disorder (OCD) in the form of acne excoriee, in which there is excessive picking of the acne lesions. Compulsive behaviour can manifest in the form of excessive use of soap and cleaning methods to feel free of infection.[10]

Vitiligo:

Vitiligo is a skin disorder which is dependent on genetic and environmental factors but may be precipitated and influenced by stress.[5]

People with vitiligo experience stigmatization, both enacted stigma and felt stigma and this causes severe distress. People avoid making physical contact or they do not touch the objects used by patients with vitiligo mostly because they think that vitiligo is contagious.[11]

Vitiligo patients have increased levels of appearance-related negative thoughts and beliefs and alexithymia.[12]

According to a study by Porter et al majority of the patients of vitiligo reported a negative impact on sexual relationships but the

number of vitiligo patients who felt embarrassed while showing their body or meeting strangers was much more.[13]

Alopecia:

Even though the hair performs functional roles like thermoregulation and camouflage in mammals, it plays a role in appearance, sexual attraction and social interaction in humans. Hence, hair loss in humans can have a significant negative impact on body image, self-esteem and confidence. Alopecia can be due to different causes but the psychological impact it can cause is well known. Also known is the impact of emotional and psychological stress on hair growth eventually becoming a trigger for hair loss.

The common alopecias that are associated with psycholological co-morbidities are: alopecia areata, telogen effluvium, chemotherapy induced hair loss, male pattern balding, female pattern hair loss and scarring alopecia.

Alopecia areata:

Alopecia areata has been found to be triggered by psychological events in some individuals. Hair loss associated with alopecia areata can have a significant impact on the psyche especially in women as hair plays a major role in the female identity. AA negatively impacts self-esteem, and increases levels of depression, anxiety, phobic reactions and paranoia among the patients. In the youngsters, alopecia areata can lead to coping and bullying issues in school and may cause depression in them. In adults it may cause anxiety.[14]

The rate of suicide attempts has been reported to be higher in patients with alopecia areata and their characteristics to be more commonly associated with alexithymia, which is a cognitive disorder of the identification and expression of emotions.[15]

Telogen effluvium:

The sudden increase in hair shedding, the hallmark of telogen effluvium, is very distressing to the sufferer and significantly reduce the quality of life.[14]

It is also true the other way around. Psychological distress can inhibit hair growth and force hairs into catagen and thus leading to excessive hair loss.

Thus acute or chronic stress can cause TE development, while TE itself can cause secondary stress, and hence more hair loss, leading to a vicious cycle. The TE-stress-TE vicious cycle is leads to anxiety and depressive symptoms, especially in women who are more concerned about their outer appearance.[16,17]

Chemotherapy-induced alopecia:

Chemotherapy-induced alopecia develops due to chemotherapy and is mainly due to the loss of hair at the anagen stage which is the growth phase. The intense hair loss is observed rapidly as 80-90% of hairs on the scalp are in the anagen stage. It has several psychosocial effects such as anxiety, depression, and low self-esteem affecting the quality of life. Even the idea of the development of alopecia in patients after the diagnosis of cancer can cause traumatic fear and anxiety. CIA has been shown to be among the main three chemotherapy-related side effects causing distress and to be more significant in female patients. Chemotherapy-induced alopecia is one of the major stress resources because it is the most visible reminder of the disease, the need for treatment and death.

CIA has different psychosocial effect on different patients. Some try to appear normal, some make fun of alopecia, some shave their hair without waiting for complete loss, some even share their baldness on social media, and some try to hide the alopecia with a wig, but the number of people who choose to become asocial is considerable.[18,19,20]

Male pattern baldness:

Androgenetic alopecia disrupts the body image and causes stress. It also causes higher rates of psychological problems in young men who are single and who think physical appearance is important for self-esteem and the symptoms are directly proportional to the severity

of the alopecia. AGA in men causes less severe psychological effects than other types of alopecia.[21]

Female pattern hair loss:

FPHL has been shown to have a negative effect on daily life, lowering self-esteem and causing social co-morbidities. When compared to men, women suffer more emotional distress and make significantly more efforts to cope with hair loss because hair loss in women is not seen as an age-related process as in men. The psychological impact is greater in younger women and with increased severity of hair loss.[14]

Scarring alopecia:

Apart from the inability to regrow hair due to the scarring process, in the patients with scarring alopecia, the underlying inflammatory conditions are often progressive and can produce symptoms like itching and burning. In spite of the lack of studies due to the rarity of the condition, it can be assumed that based on clinician's experience, scarring hair loss is even more devastating than temporary hair loss as it is so final. It is very important to manage the expectations of the patient in terms of hair regrowth and also manage the inevitable psychosocial co-morbidities of hair loss.[14]

Other chronic skin diseases:

Prurigo & LSC:

Prurigo nodularis presents as intensely itchy hard papules and nodules, with a warty, excoriated and pigmented surface with a surrounding ring of hyperpigmentation. It can occur at any age in both the genders commonly involving the extensor area of the limbs, face and trunk. It may leave scars when regressing spontaneously. Emotional stress can trigger severe itching crises.

Lichen simplex chronicus (LSC) is a dermatological condition with lichenification of the skin as a result of primary excessive

scratching. The common sites of involvement are the sides of the neck, ankles, scalp, vulva, pubis, scrotum, and extensor forearms. It is commonly seen in the age group of 35 to 50 years of age, and women are affected twice more than men.

Lichen Planus (LP):

Stressful situations, especially related to family, may have a role in the onset and extension of lichen planus lesions. The presence of major life events, family matters, 'the stressful event' represented by the illness or death of someone dear and 'personal problems' were statistically significant in patients with lichen planus when compared with controls.[22]

Significantly higher stress, anxiety and depression levels were found in the OLP than the general population in another study.[23]

Another study says that psychological factors are key players in the initiation and perpetuation of several oral mucosal and orofacial pain conditions like oral lichen planus and the need to highlight the importance of psychological intervention, where applicable, to provide an effective long-term pain management in such affected patients.[24]

Chronic Urticaria:

Quality of life (QoL) is markedly reduced in patients with chronic urticaria. Mainly the aspects of physical health and psychological health were most affected in CIU patients. CIU patients also frequently suffer from depression and anxiety.[25]

One study showed that most of the patients experienced a "stressor" event within the six months before the onset of chronic urticaria. The incidence of depression in these patients was very high in comparison with the general population. The impact on the quality of life results was moderate, involving different fields of life (physical image, social life, quality of sleeping and eating, etc).[26]

Management of psychological aspects of dermatological diseases:

There is a complexity in the relationship of skin diseases and psychological morbidities that should be addressed. This is the role of personality. Personality has been treated in the psychodermatological literature both as a psychological consequence of skin disease and, in other instances, as a stable trait that might modulate the effect of skin disease on psychological function.[27]

Since the skin and psyche share a closely intertwined bond, management of skin disorders, especially chronic skin disorders is incomplete without caring for the psyche of the patient. Interventions in patients having psychodermatological problems can be pharmacological or nonpharmacological.

A lot of non pharmacological interventions have been tried successfully for these problems. These involve structured and unstructured interventions that reduce skin disorders and psychologic distress. They are used as adjuncts to traditional therapy. The exact mechanism of action involves decreased release of catecholamines, modulation of cytokines and neuropeptides and local effects like decreased release of pro inflammatory mediators.[28]

Assessment of patients : Socrates questioning and using quality of life indices to assess status will help in initial assessment.[29] Socrates questioning involves asking informational questions, listening, summarizing what one has heard, asking analytical and synthesizing questions.

Non pharmacological interventions:

Hypnosis:

Hypnosis has been shown to be useful in eczema, alopecia areata, hyperhidrosis, verruca, urticaria, rosacea, lichen planus and vitiligo.[28] Hypnosis is best done by trained professionals. Hypnosis or self – hypnosis has been used to reduce stress in patients of alopecia areata,

herpes simplex, lichen simplex chronicus, neurotic excoriations, nummular dermatitis, seborrheic dermatitis and atopic dermatitis.[30]

Biofeedback:

In biofeedback , a patients physiological activities like blood pressure, breathing etc are measured. Then the patient is taught techniques that help to modulate these activities. The modifications learnt help to bring positive changes in the emotional well being and thus, the functioning of the skin. Biofeedback has been used in rosacea,acne, urticaria,psoriasis and eczema. Galvanic skin response biofeedback has been used to reduce hyperhidrosis.[30]

Meditation:

Meditation can be concentrative meditation or mindfulness meditation. Mindfulness meditation helps an individual to disengage automatic repetitive thoughts, being aware and accepting of the current situation, when taking mindful action towards desired change. A mindfulness practitioner becomes more tolerant of stress. It has been used in psoriasis and found to be effective, particularly in combination with light therapy.[31]

Guided imagery and progressive muscular relaxation:

Imagery is a useful technique for helping the patient to visualise the feared situation while in a relaxed state using progressive muscular relaxation.

Behavioural therapy :

Behavioural therapy includes techniques such as systematic desensitization, assertiveness and social skills training, behavior analysis, relaxation training, biofeedback, habit reversal training and imagery[10]. The aim is to progressively diminish maladaptive behavioural responses by repeatedly inhibiting the anxiety by means of competing responses. In habit reversal training, the patient is made aware of his habits (eg skin picking),taught to relax himself and use a competing response (clenching his fists) when he feels the urge.[31]

Cognitive behavioural therapy:

Cognitive-behavioural methods alter dysfunctional habits by interrupting and altering dysfunctional thought patterns (cognitions) or actions (behaviors) that damage the skin or interfere with dermatologic therapy. Skin diseases responsive to cognitive-behavioral methods include acne excoriée, atopic dermatitis, factitious cheilitis, hyperhidrosis, lichen simplex chronicus, needle phobia, neurodermatitis, onychotillomania, prurigo nodularis, trichotillomania, and urticaria. [30]

Pharmacological interventions:

Most patients with psychodermatological problems have one of the four psychopathologies namely depression, anxiety, psychosis and obsessive –compulsive disorder. Irrespective of whether the psychiatric disorder is primary or secondary to the skin problem, an appropriate drug would help in the management of the issue. Most patients are reluctant to be referred to a psychiatrist and hence the responsibility of the holistic management falls on the dermatologist. For the treatment of anxiety, benzodiazepines or buspirone or antidepressants with anxiolytic effects are used. For the depressed patient with neurotic excoriations, tricyclic antidepressant Doxepin can be used. It has an antipruritic effect too. Other antidepressants like fluoxetine, escitalopram can also be used for depressed patients who refuse psychiatry referrals. Venlafexine and bupropion are other useful antidepressants. [32]

Thus, an eclectic approach combing the pharmacological and non-pharmacological interventions, tailored to meet the needs of the individual patient would be most appropriate to manage these difficult-to-treat disorders.

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Chapter-2

Covid-19 : Psychodermatology Practice

Kishor M., Ashwini P.K.

The Novel Coronavirus (COVID19) pandemic has affected more than 12,50,00,000 people by end of March 2021, with more than 27,69,473 deaths worldwide. India stood third in the number people infected. The impact of COVID-19 on mental health of people has been unprecedent in the recent times and the World Health Organisation (WHO) has called for great investment of resources for mental health. The field of Dermatology and Psychiatry are interlinked in complex manner, right from aetiology to the management. It is important that the dermatologists are updated about the common mental health issues that accompany dermatological conditions in everyday practice, during this pandemic and its aftermath.

The pandemic has led to serious economic & social adversity for millions people since March 2020 lockdown across India, people have lost jobs, renumeration reduced, expenditure increased, drastically reduced interactions with friends and family, lack of access to regular health care services, fear of infection, isolation, hospitalisation, issues with quarantine and many more. These factors affect mental health in a complex manner and exaggerate the pre-existing dermatological conditions or herald onset of psycho-dermatological conditions.

The pandemic and its related lockdown affected many patients with chronic dermatological illness like leprosy, psoriasis,

pemphigus vulgaris. Patients with leprosy would have had limited access to multidrug therapy and other key leprosy services. Patients with psoriasis and pemphigus group of disorders might be on long term immunosuppressant drugs. Due to the restrictions implied during the pandemic the regular follow up visits of such patients would have been hampered to a large extent. Tele consultations were encouraged to bridge the gap in such situations.[1]

Psychodermatology is divided into three categories according to the relationship between skin diseases and mental disorders :

1) Psychophysiologic (psychosomatic) disorders caused by skin diseases triggering different emotional states (stress), but not directly combined with mental disorders (psoriasis, eczema)
2) Primary psychiatric disorders responsible for self-induced skin disorders (trichotillomania) and
3) Secondary psychiatric disorders caused by disfigured skin (of ichthyosis, acne conglobata, vitiligo), which can lead to states of fear, depression or suicidal thoughts.

The dermatologist can greatly enhance the skill in evaluating the patient (with safety measures) by compassionate listening, keen observation and systematic examination. Knowledge regarding screening tools to identify the psychiatry condition would help in better management of the patients.

Screening tools :

The quality of life (QOL) of patients with skin disease might get affected. The measurement of health related quality of life (HRQOL) is important. Measurement tools include measures such as Dermatology Life Quality Index (DLQI), the Dermatology Quality of Life Scales (DQOLS), the Dermatology Specific Quality of Life (DSQL), World health organisation Quality of Life (WHOQOL), SF-36 and Skindex. Instruments used in children include the Children's Dermatology Life Quality

Index (CDLQI) and Centre for Epidemiological Studies Depression Scale for Children (CES-DC).[2]

One of the simplest screening tools for psychiatric conditions is Goldberg's General Health Questionnaire (GHQ) 5 Item version, validated in India.[3]

The patient can be evaluated for degree of depressive symptoms by Patient Health Questionnaire (PHQ-9) [https://patient.info/doctor/patient-health-questionnaire-phq-9] and anxiety can be evaluated by GAD-7 (Generalised Anxiety Disorder 7 Item scale).[4]

The Hamilton Depression Rating Scale (HDRS) ,Zung Depression/anxiety Rating Scale can be used.

Whenever the dermatologist finds that there are psychological issues, one can easily use brief psychotherapy technique such as BATHE, globally accepted psychotherapeutic method for anxiety, depression and situational stress disorder.[5]

The BATHE Procedure

Session begin with assessment of "**Background**" of the person ("the visit or the needy"), the socio-cultural factors & recent adverse events (What is happening or happened?) which gives reasonable information about "the individual".

Then "**Affect**" associated with it are explored "How they feel about it?"

It is important to facilitate "**Troublesome**" feelings. "Their meaning of the situation"

Assess "**Handling**"- How are you handling that?

Then dermatologist assists the affected by suggesting methods of "Handling" through education & reassurances about common reactions to adversaries of life as perceived by the people

Empathetic listening to patients views, beliefs & uncertainties, followed by appropriate empathy ("This must be very difficult for you"), empathetic education, problem solving approaches, coping strategies, reassurances & support may reduce needless worry, reduce feeling of helplessness, and diminish irrational fears.

This technique has also been used building competencies for mental health facilitators during pandemic.[6]

The dermatologist can also refer the patient who may need psychiatry services, the patient should feel that the referral is part of team approach and both consultants are keen to assist the patient in recovery or optimal recovery.

Where ever the dermatologist suspect that patient may be at high risk of suicide, based on the dermatological condition or the sever distress psychological state or previous suicide attempt or family history of suicide or use of alcohol/substance, it may much easier to assess using mobile application such as SAFL (Self-assessment& help) an android free app can evaluate in less than 2minutes after filling the available information. The risk of suicide at end of assessment are displayed as Urgent, Important to take help or Take help when required, which correlates with High, moderate and low risk respectively according to World Health Organisation (WHO) guidelines. App also provides five option for help; Talk to someone now (free telephone counselling service across India), Consult a doctor now option (weblinks for portal that connects doctors, psychiatrist, clinical psychologist), also World Health Organisation's guideline PDF, on what can do for self or others, is also provided.

Pandemic has severely affected the patients, it is likely to affect even in the aftermath of pandemic and every patient centred dermatologist can do justice by upgrading the clinical skills.

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Chapter-3

Psychogenic Pruritus

Anil Kakunje

Introduction:

Pruritus (or itch) was defined in 1660 by Samuel Hafenreffer as an unpleasant sensation leading to a scratch.

Psychogenic pruritus (PP) can be defined as "an itch disorder where itch is at the centre of the symptomatology and where psychological factors play an evident role in the triggering, intensity, aggravation or persistence of the pruritus". It is also called as "somatoform pruritus" or "functional itch disorder" and in French as "pruritus sine materia".

Like pain, pruritus represents suffering (and never pleasure, even though scratching can sometimes provide a pleasant feeling).

Developmental connection:

Just as the eyes are regarded as the windows to our soul, the skin is a surface reflection of the inner depths of our mind. From a developmental angle, skin and brain are polar terminal differentiations from the same embryonic neuroectoderm, and pruritus is a symptom that demonstrates the intricate link between these two organs. To illustrate this point, itch can be induced simply by thinking about it!

Epidemiology:

Incidence of PP in the general population is unknown; however, its incidence is around 2% among patients seen in dermatology clinics.

There is a female predominance with average age of onset between 30 and 45 years of age.

Pruritus in psychiatry diagnosis classification:

In the WHO ICD-10(F45.8), psychogenic pruritus is included in the diagnosis of "other somatoform disorders" along with globus hystericus, psychogenic torticollis, psychogenic dysmenorrhoea and bruxism. These disorders are classified among somatoform disorders, which are included in the broader category "neurotic disorders, stress-linked disorders and somatoform disorders".

In DSM 5, psychogenic pruritus is included in somatic symptom disorders. (300.82)

Clinical features:

Elimination of traditional organic causes often leads the clinician to label a symptom as psychogenic in origin. Pruritic episodes are unpredictable with abrupt onset and termination, predominantly occurring at the time of relaxation. The commonest sites of predilection are legs, arms, back, and genitals. Often there is history of a major psychological stress preceding the onset of PP. A significant number of patients have associated anxiety and or depression. Secondary skin changes associated with PP are commonly found on body areas that are most accessible to the hand.

Unfortunately, it is too often mislabeled as idiopathic pruritus when the patient is anxious and the doctor has no other diagnosis to propose. This occurs because psychogenic pruritus is not well defined. This confusion might be serious, since it could result in misdiagnosis. In the worst scenario, a patient's complaint might be ignored when his or her pruritus is in fact a symptom of a serious underlying disease. In addition, some patients could wrongly feel guilty about their itch when they are told that it is psychological.

Psychogenic pruritus can be generalized or localized based on distribution site

Psychogenic pruritus can be of three types

1. Compulsive : Itching done to avoid anxiety, in full awareness, some resistance is used
2. Impulsive : Itching linked with arousal or relief in tension, more automatic, less resisted
3. Mixed : Features of both types are present

Psychogenic pruritus, also referred to as functional itch disorder, is a distinct clinical entity according to the French Psychodermatology Group (FPDG). They described it is characterized by pruritus, which is the chief complaint and psychological factors contribute to eliciting, worsening, and sustaining the symptoms. Specific diagnostic criteria were proposed, including 3 compulsory and 7 optional, of which 3 have to be met in order to establish the diagnosis.

Diagnostic criteria for functional itch disorder (psychogenic pruritus)

3 compulsory criteria:

- Localised or generalised pruritus sine materia
- Chronic pruritus (> 6 weeks)
- No somatic cause

3/7 of optional criteria:

- A chronological relationship of pruritus with one or several life events that could have psychological repercussions
- Variations in intensity associated with stress
- Nocturnal variations
- Predominance during rest or inaction

- Associated psychological disorder
- Pruritus that could be improved by psychotropic drugs
- Pruritus that could be improved by psychotherapies

Other illnesses which are broadly included in functional muco-cutaneous disorders are

- Functional itch disorder
- Skin psychogenic pain
- Skin psychogenic paraesthesia
- Vulvodynia
- Stomatodynia, glossodynia
- Some trichodynias
- Some reactive/sensitive/hyper-reactive/irritable skins

Differential diagnosis :

Functional itch disorder should also be differentiated from idiopathic pruritus in that the former consists not only of negative features (no somatic cause) but it also has positive features (clinical characteristics and association with psychological disorders or stressful life events)

Psychogenic urticaria, psychogenic dermographism, psychogenic excoriations without pruritus and dermatitis artefacta cannot be included in the same category as functional itch disorder.

Management :

Educating patients that their itch is psychological requires much prudence and tact.

An incorrect diagnosis of psychogenic itch not only increases patient's frustration and stress levels but also limits further work up and treatment options which sometimes could be detrimental.

Psychogenic pruritus may require cooperation between dermatologists, psychiatrists, and Clinical psychologists. Psychotherapy and psychopharmacotherapy are mainstays of managing the disease.

Various pharmacotherapeutic agents used for depression and anxiety have been shown to be effective antipruritic medications. Medications that can be used to treat pruritus with comorbid depression and/or anxiety include selective serotonin reuptake inhibitors (SSRIs), Serotonin norepinephrine reuptake inhibitor (SNRI) and tricyclic antidepressants (TCAs).

Mirtazapine has been used as an antidepressant, anxiolytic, and antipruritic agent. The SSRI antidepressants and anxiolytics that have been used to treat pruritus consist of escitalopram, paroxetine, sertraline, fluvoxamine, and fluoxetine. The use of TCAs, namely amitriptyline and doxepin, in psychiatry is limited nowadays in view of the better efficacy and safety profile of the SSRIs. Of note, all the previously mentioned psychotherapeutic medications have a period of "therapeutic lag" of as long as 2 to 4 weeks before their effect is evident.

Medications which could be used with usual dosages

Tab. Escitalopram 10-20 mg/day

Tab. Sertraline 50-150 mg/day

Tab. Paroxetine 10-20 mg /day

Cap. Fluoxetine 20-40 mg/day

Tab. Mirtazapine 7.5-15mg /day

Tab. Dothiepin 25-100mg/day

Tab. Amitriptyline 25-100mg/day

Patients' psychological capability to control the itch-scratch process can be enhanced with education, support, and behaviour therapies. Behavior therapies can include awareness training,

habit reversal, and relaxation training, such as deep breathing and progressive muscle relaxation.

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Chapter-4

Addressing Pruritus Without Rash

Manjunath Hulmani

Chronic pruritus with a psychogenic component should be managed essentially adopting a holistic approach to not only address dermatological somatosensory component but also cognitive and emotional aspects of the condition. A multidisciplinary team consisting of dermatologist, psychiatrist, psychologist, nurse, and social worker would be required to adequately address the multifaceted aspects of pruritus.

Pathophysiology

Itch is carried by the unmyelinated C nerve fibers, these are slow conducting fibers which have extensive terminal branches, these fibers transmit to the dorsal horn of the spinal cord and via the lateral spinothalamic tract to the thalamus, and finally the somatosensory cortex. The brain then interprets this as the sensation of itching. (2)

Itch has been classified into the following four subgroups

1. **Cutaneous:** Also known as pruriceptive itch, is caused due to inflammation of the skin.
2. **Neuropathic:** Itch that is caused due to the damage to the nervous system and it is perceived anywhere along the afferent nerve pathway, this could be either acute or chronic and persistent. In most of the cases neuropathic itch is associated with sensory damage and is experienced as

paresthesia, hyperesthesia, or hypothesia. This explains the sensation of pain and itch at the same site. It is seen in brain tumors, notalgia parasthetica, post burn scar, keloid,herpetic neuralgia, multiple sclerosis.(1,2,3)

3. **Neurogenic:** Here there is no neuronal pathology, as itch sensation originates centrally, for example itch in cholestasis.
4. **Psychogenic:** Pruritus stemming primarily from psychological origin(1). It is characterized by intense desire to scratch, pick, gouge at normal skin. Psychogenic pruritus can occur either with a known psychologic abnormality, or concurrently in a patient suffering from another type of itch. Although psychogenic pruritus poses a clinical challenge to the dermatologist and the psychiatrist, it has not been labeled a distinct diagnostic entity in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV). Psychogenic pruritus is a diagnosis of exclusion and is made only after ruling out other causes of pruritus. It is seen in delusional states, like parasitophobia.(1,2)

Psychophysiology of Psychogenic Itch

Psychogenic itch is said to be mediated by central neural mechanisms with the help of neuropeptides, especially the endogenous opioids. Hence inhibition of peripheral pathways is not effective in, controlling itch originating from psychiatric disorders,this is further supported by attenuation of itch with the use of opiate antagonists. Depression has been known to be associated with increased levels of corticotropin-releasing factor which can lead to elevated central opiate levels, increasing the perception of the itch.As elucidated in chronic pain models,mu opioid receptors have been thought to alter induction of pain – and more recently for itch.(1)

Opioid receptors have been found to play a role in central and peripheral induction of itch; mu opiate receptors (MOR) modulate pain and itch in the central nervous system. Itch could be triggered by an imbalance between these opioid receptors. The opiate kappa receptor TRK-820 was effective in the treatment of uremic pruritus on the contrary, kappa opioid receptors have shown promising evidence of anti-pruritic effects (1,2)

In addition, acetylcholine, known itch mediator, the exact role in pruritic psychodermatoses is still unclear. Although the neural itch pathway has not fully been discerned, various psychologic mechanisms are thought to also modulate the sensation of itch. In psychopruritic disorders stress plays pivotal part in patient's mental health and should be taken into account,it is believed that stress increases perception of itch by several mechanisms: for example - it can cause changes in hemodynamics, increasing blood flow, inducing sweating, and altering body temperature, but it can also promote peripheral release of cytokines and chemokines like histamines, vasoactive neuropeptides, and other mediators of inflammation. Interestingly, the effects of histamine on human skin have shown to be influenced by cognition – anticipation of itching alone could promote scratching. This phenomenon was observed in atopic dermatitis patients receiving histamine prick tests who were intentionally briefed on the dramatized effects of histamine prior to starting the testing; over 90% of the participants complained of increased itch when they anticipated feeling itchy.(1)

Glucocorticoid secretion, as well as mast cell release of numerous cytokines and proteases,are other substances that can drive neurogenic inflammation invariably evoking pruritus.These actions concomitantly contribute to the repetitive cycle of scratching in pursuit of relieving itch. Precipitation of various inflammatory conditions like atopic dermatitis and psoriasis can

be due to psychological stressors as well, which can accelerate disturbances in the homeostasis of the epidermal skin barrier.(1)

Serotonin (5-HT)- Serotonin (5-HT) is another amine compound stored in human platelets. It is released when platelets aggregate. This substance may regulate itch by acting on 5-HT3 receptors. A placebo-controlled study of a 5-HT3 antagonist, ondansetron, demonstrated significant reduction in itch 30 to 60 minutes after the drug was administered and lasted up to six hours.(2)

Acetylcholine-Acetylcholine, is a neurotransmitter, which stimulates histamine-sensitive and histamine insensitive C-fibers. The flare response with intradermal injection of acetylcholine is smaller than that of histamine injection. Studies have demonstrated that patients with atopic dermatitis have increased sensitivity to acetylcholine versus normal subjects. Normal patients experienced pain upon administration of acetylcholine injection, but the atopic subjects experienced itching.(2)

Few peptides are known to cause a vascular response and varying intensity of itch, these are vasoactive intestinal protein, kinins, substance P and enkephalin. The effects of these substances could be mediated through the release of histamine subsequently, since exhaustion of histamine in skin by 48/80 (a histamine releaser) or H1 blockers can prevent these responses. Mechanical factors may play a role in pruritus, including heat (vasodilation) and xerosis. Night-time pruritus, which is often organic in nature, is associated with increased parasympathetic activity and a lowered threshold to itching. (2)

Substance P, a 11-amino-acid that causes wheal, flare, and itch when injected intradermally. It causes itching indirectly by release of histamine from dermal mast cells (2)

Interleukins (ILs)—cytokines produced by lymphocytes, keratinocytes, mast cells and fibroblasts, in the skin, play a role in the pathological process of itch.(2)

Diagnostic Approach

Pruritus is a common symptom encountered in various skin conditions as well as systemic disorders. Treatment of this symptom is often difficult as the causes are multifactorial and involve more than one mediator. When it comes to diagnosis of psychiatric pruritus systemic, neuropathic, and dermatological causes should be ruled out (Table-1). Pruritus could be purely psychiatric or in combination with other dermatological conditions or internal diseases, an evaluation for the cause has to be done. Referral to a psychiatrist or a Clinical psychologist is highly recommended after the initial evaluation by the dermatologists.

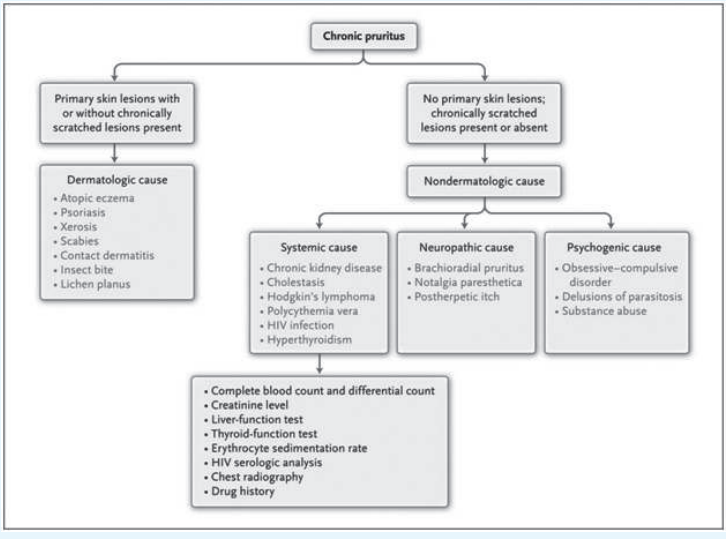


Table 1 - Diagnostic Workup for Chronic Pruritus. (5) Adopted from Yosipovitch G, Bernhard, Jeffrey D. Chronic pruritus. N Engl J Med ;368;1625-34

To manage Pruritus effectively, identifying the primary cause by taking thorough history is essential which should include:

Initial Assessment

1. Onset, duration of itch, quality, time course, localization, preceding skin changes,
2. Relieving factors
3. Exacerbating factors - atopic diathesis, drug history, previous history allergies, weight loss, fever, fatigue, emotional stress, and other symptoms of any underlying disease have to be elicited.
4. A psychosocial history and physical examination should be conducted - Any prior psychiatric history should be confirmed as well as any major recent life events, changes in sleep or lifestyle, and substance use.
5. Other important symptoms in diagnosing etiology of pruritus include history of infection in family members, Scabies and other parasites infection among family members.
6. Pruritus during physical activity: Cholinergic pruritus, which is often reported to be atopic aquagenic pruritus provoked by skin wetting with cold water, Nocturnal pruritus with chills, fatigue, sweating, weight loss reported in lymphoma, sleep disturbance is rare with psychogenic pruritus, whereas most types cause wakening.(4).

When evaluating the patient with significant pruritus, patient's overall psychological state and the degree of disruption of his or her lifestyle should be evaluated. During physical examinations, careful note should be made of primary skin lesions, which may suggest a dermatological diagnosis, as well as secondary lesions from scratching.(4)

Treatment

For those patients with primary skin lesions who have not responded to an initial short-term course of antipruritic therapy, laboratory workup is recommended.

1. Hematological - A complete blood cell count with differential can effectively screen for hematopoietic disorders.
2. Iron deficiency: Ferritin and TSAT
3. Parasitosis including helminthiasis, Giardia lamblia (rare): Stool culture and microscopic examination
4. Serum glucose concentration will exclude diabetes mellitus.
5. Liver function tests are indicated to rule out cholestatic disorders – LFT, AST, ALT, Hep B,C serology, LDH
6. Renal investigation - blood urea nitrogen and creatinine along with a urinalysis to detect renal dysfunction.
7. Thyroid / parathyroid - Thyroid profile with PTH, calcium, Vit D levels to rule out hypo thyroid and hyperparathyroidism
8. A chest roentogram may show overt mediastinal enlargement associated with Hodgkin's disease.
9. An HIV antibody test is indicated for patients with risk factors.
10. Drug-induced pruritus: gamma GT, Bilirubin, AST, ALT, LDH, and skin biopsy.Once the medical cause has been ruled out after a thorough history, physical examination and investigations, psychodermatological cause must be suspected and a referral to a psychiatrist has to be made. The patient has to be educated about the multifactorial cause of itching and, request to seek additional evaluation as an adjunctive measure to help reduce the overall itch intensity (4)

General approach

One of the most challenging tasks in managing patients with pruritus of psychiatric originis addressing the psychologic basis for their pruritic symptoms.In cases of factitious dermatitis,a direct discussion of the self-inflicted nature of the lesions is not found to be helpful and rather recommended it be avoided.The treatment should be individualized and holistically approached.Somatic treatment with anti-pruritus drugs and

psychosomatic treatment including pharmacological and non-pharmacological treatment are needed(4).

Dermatologic Approach

Usual dermatologic treatments are not effective in treating psychogenic itch but can aid in the management by decreasing any secondary component caused by persistent scratching or skin manipulation.

1. Good skin hygiene - moisturization can minimize xerosis which is an exacerbating factor for itch and help heal the normal skin barrier. Menthol and camphor oil have a cooling effect and soothing properties which give a psychological feedback that the topical applications are working
2. Crotamiton 10% has cooling effects and is often used in patients who have formication.
3. The mild anesthetic properties of pramoxine can be therapeutic as well.
4. Inflamed and irritated lesions due to frequent scratching and manipulation can be calmed by use of topical steroids and calcineurin inhibitors. Occlusion of the topical medication not only enhances the penetration of the drug but also physically protects the area from further scratching
5. Wound care is paramountwhen there is evidence of underlying infection from chronic skin manipulation, at times necessitating oral anti-microbial coverage.
6. Anti-histamines, with sedative effects, help temporarily reduce the scratching.(1)

Pharmacological treatment (Table 2)

Neuropathic itch and psychogenic itch pose a therapeutic challenge for dermatologists. Treatment with standard medications used by dermatologists for itch such as oral antihistamines and topical steroids are of little help. Many agents

used for treatment of depression and anxiety are known to be effective antipruritic agents, some of which include selective serotonin reuptake inhibitors (SSRIs), Serotonin Norepinephrine Reuptake Inhibitor (SNRI) and tricyclic antidepressants (TCAs).Tricyclic anti-depressant (TCA), such as doxepin, amitriptyline, and trimipramine, have additional anti-histaminic effects and could be of use in dermatological conditions such as urticaria and pruritus. SSRIs are the first line agents preferred to conventional TCAs, as they have more favorable sideeffect profile. Neuroleptic medications are useful for the treatment of delusions of parasitosis, and the current drug of choice is pimozide. Often, a combination of therapies is needed to treat the itch.

Neuroleptics

Table 1. **Commonly Used Topical and Systemic Medications for Chronic Pruritus.***

Medication	Common Dose	Side Effects	Medical Condition	Comments
Topical therapy				
Emollients	Many products with different ingredients	None	Atopic eczema itch, dry-skin itch, skin-barrier damage	
Glucocorticoids	Many products with various doses	Skin atrophy, telangiectasia, folliculitis	Atopic dermatitis, psoriasis, skin inflammation	Use low-potency agents in children and on face and in skin folds; avoid long-term use of very potent agents
Anesthetic agents				
Capsaicin	0.025% to 0.1%	Burning sensation for the first 2 wk	Neuropathic itch, itch caused by chronic kidney disease	
Pramoxine	1% to 2.5%	Skin irritation and dryness at the affected area	Facial eczema, genital itch, itch caused by chronic kidney disease, neuropathic itch	
Lidocaine and prilocaine mixture	2.5% to 5%	Methemoglobinemia	Neuropathic itch, postburn itch	
Menthol	1% to 5% cream	Skin irritation (including hypersensitivity and burning sensation) with higher concentrations	Itch that responds well to the application of an ice cube or to cold showers	
Calcineurin inhibitors	Pimecrolimus, 1% cream; tacrolimus, 0.03% to 0.1% ointment	Transient stinging or burning sensation	Atopic dermatitis, contact dermatitis, and particularly for facial or anogenital itch	
Systemic therapy				
Oral antihistamines				
Hydroxyzine	25 to 50 mg four times daily	Drowsiness, dry mouth; abrupt withdrawal may cause confusion	Chronic urticaria, nocturnal itch, drug-related itch; pruritic conditions in which drowsiness is desired effect	Should not be administered with antidepressants
Doxepin	10 to 50 mg orally one to three times daily	Same as for hydroxyzine; can prolong QT interval, so should be used with caution in patients with electrocardiographic abnormalities	Same as for hydroxyzine	May cause confusion in elderly, urinary retention
Diphenhydramine	25 to 100 mg orally four times daily	Same as for hydroxyzine	Same as for hydroxyzine	
Anticonvulsants				
Gabapentin	100 to 1200 mg orally three times daily	Drowsiness, constipation, leg swelling	Neuropathic itch (high dose, up to 3600 mg daily); pruritus from chronic kidney disease (low dose, 100 to 300 mg three times a week after dialysis)	
Pregabalin	25 to 200 mg orally twice daily	Drowsiness, leg swelling		
Antidepressants				
Paroxetine	10 to 40 mg orally once daily	Insomnia, dry mouth, sexual dysfunction	Generalized pruritus, paraneoplastic itch, psychogenic pruritus	
Mirtazapine	7.5 to 15 mg orally once daily	Drowsiness, dry mouth, increase in appetite, weight gain	Generalized pruritus, nocturnal itch	
Amitriptyline	25 to 150 mg once daily or up to 3 divided doses	Drowsiness, dizziness, constipation, dry mouth, blurred vision	Neuropathic itch	Urinary retention, heart palpitations, low blood pressure, confusion in elderly
Opioids				
Mu antagonist	Naltrexone, 12.5 to 50 mg orally once daily	Nausea and vomiting, abdominal cramps, diarrhea, hepatotoxicity	Intractable itch, cholestatic pruritus, possibly pruritus from chronic kidney disease	
Kappa agonist and mu antagonist	Butorphanol, 1 to 4 mg inhaled at bedtime	Drowsiness, dizziness, nausea, vomiting	Intractable itch	
Ultraviolet B radiation (broad and narrow band)	Three times a week	Burning sensation, initial pruritus; long-term risk of skin cancer	Atopic dermatitis, psoriasis, pruritus from chronic kidney disease	

Table 2 – commonly used topical and systemic medications for chronic pruritus (7)Yosipovitch G, Patel TS. Pathophysiology and clinical aspects of pruritus. In: Goldsmith LA, Katz SI, Gilchrest BA, Paller AS, Leffell DJ, Wolff K, eds. Fitzpatrick's dermatology in general medicine. 8th ed. New York: McGraw-Hill Medical;1146-58.

Anticonvulsants such as gabapentin, pregabalin, carbamazepine, and lamotrigine have demonstrated efficacy in case reports in treatment of neuropathic itch. These drugs appear to have mood-stabilizing properties and anxiolytic benefits.

Gabapentin is a structural analog of the neurotransmitter gamma-aminobutyric acid and a potent anticonvulsant. It is commonly used for neuropathic pain and approved by the FDA for postherpetic neuralgia. Its exact mechanism is unknown,but it has been effective in the treatment of brachioradial pruritus, and Multiple Sclerosis. It is also used for anxiety.The initial dose is 300 mg once daily titrated every 3 days by 300 mg up to maximum dose of 2400 mg/day. (3,4)

Pregabalin is a new oral medication that is chemically related to gabapentin. It is used for treating neuropathic pain and seems to work for neuropathic itch as well as for depression and anxiety. The initial dose is 25–75 mg and can be increased up to 300 mg a day. (3,4)

Selective norepinephrine re-uptake inhibitors

Duloxetine, a selective serotonin and norepinephrine reuptake inhibitor, is the first antidepressant to be licensed for the treatment of diabetic peripheral neuropathic pain and is effective for psychogenic itch associated with depression and anxiety. (3)

Another SNRI Mirtazapine has a triple therapeutic effect against depression, anxiety, and pruritus, with a prominent side effect of drowsiness. But seems to be effective in especially those

with nocturnal attacks and suspected central sensitization.The dose is 15 mg, higher doses do not seem to be of any additional effect and can cause more side effects. In a small controlled double-blind study Paroxetine, a SSRI has been found to be an effective antipruritic.(3,4)

Tricyclics antidepressants

For many years TCIs have been used for depression and neuropathic pain. Amitriptyline was reported to be useful in some cases of neuropathic itch. The initial dose is 10 mg three times daily or 25 mg once a day at bedtime.(3) Doxepin is an antidepressant which, exhibit potent H1 and H2 antihistamine, potent antipruritic and antidepressant with highly sedating effect,is especially useful if sleep disturbance is reported(3)

The dose is from 25 mg up to150 mg at bedtime. Typically, 6–8 weeks of therapy is needed before results are seen. Doxepin can be given systemically as well as topically.Nowadays, the use of TCA has taken a backseat because of the availability of highly efficacious SSRI. In one study, doxepin was found to be more effective than hydroxyzine or diphenhydramine in relieving pruritus in patients with idiopathic urticaria.(4)

Specific treatments for neuropathic itch

Botulinum toxin A injection - The toxin in a dose ranging between 16 to 25 units when injected at several points along the involved dermatome successfully decreased the itching in notalgia parasthetica and this has been described in a recent pilot study in two patients. The principle of action is that Botox blocks acetylcholine,which is a mediator involved in itch transmission. This has also been reported to be successful for PHN neuropathic pain.(3)

Specific pharmacotherapy for psychogenic itch – Delusion of Parasitosis

1. Pimozide - It is a neuroleptic medication and is the drug of choice for delusions of parasitosis given at doses of 1–10 mg/day. Common side effects include extrapyramidal effects like tremor, rigidity,bradykinesia anticholinergic side effects include drymouth, blurry vision, tachycardia, constipation.(3)
2. Olanzapine, a newer atypical antipsychotic has been reported to be an effective therapyfor delusions of parasitosis with initiation dosage of 2.5–5 mg/day increased up to 10 mg/day.Major side effects of this drug were found to be high levels of triglycerides and hyperglycemia. (3)
3. Risperidone and other antipsychotics are effective therapy for delusions of parasitosis with therapeutic dosages beginning at 1 mg once daily as initial starting dosage. Common side effects include anxiety,dizziness, and rhinitis(3)

However, any monotherapy alone has not shown to be superior to combined treatmentwith psychotherapy and medications. (6)

Non-pharmacological therapy

Psychotherapy

Basic psychological intervention and counseling with a psychologist are important to address mood and personality disorders and family tension. There are few studies on psychotherapy for treatment of itch and scratching in dermatologic patients. Cognitive behavioral therapy is particularly useful in patients with obsessive compulsive disorder with or without depression to prevent scratching and itching. Behavioral therapy is based on positive reinforcement of tension reduction and which in turn cause decrease itching. For alteration of itching perception, techniques of relaxation and perceptions of sensations

involved in attenuating itch such as cooling maybe of help in reducing the itch intensity. The importance of insight counseling for the cessation of the skin picking, compulsive and impulsive behaviors should be stressed to the patient (3,8)

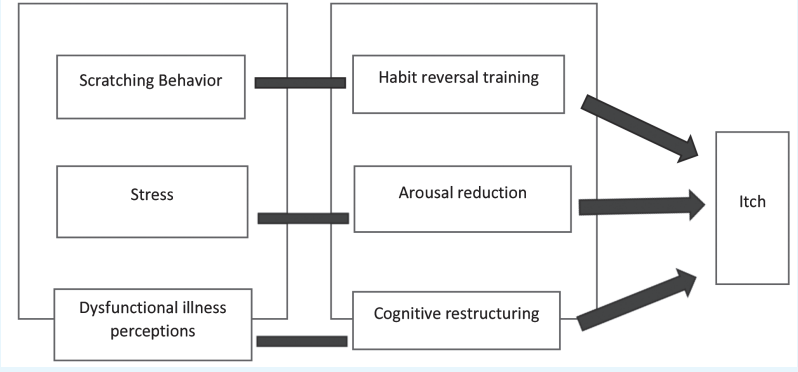
Behavioral therapy: Scratching counteracts itch (probably via segmental and suprasegmental circuits, which engage glycine and GABA-mediated inhibition of spinal itch signaling neurons). On the contrary, persistent scratching eventually injures the skin, causes disfigurement, and compromises barrier function that is exposed to secondary infection and other complications. Behavioral therapy has to be initiated in time to break the vicious circle of itching and scratching. Focusing on bodily sensations is associated with higher levels of experienced itch, distracting maneuver should be taken. These psychological interventions have shown beneficial effects in patients with differing typesof chronic itch ranging from compulsive anxiety-related disorders to atopy related itch. (8)

Relaxation : Relaxation training can be particularly helpful in those who report increased itch intensity during periods of stress. Studies have demonstrated that relaxation techniques can have positive psychophysiological effects in patients with somatic and psychological diseases.These psychological treatments can attenuate itch perception by projecting the patient's focus on other sensations asseen in autogenic training, where patients are given autosuggestions (e.g. being told, ¯your skin is calm and cool). But ultimately the efficacy of these treatments is dependent on the cooperativity of the patient and should be encouraged in those who are open to holistic modalities.(8)

Cognitive behavioral therapy: It is a combination of the psychological interventions and has 3 components - habit reversal training, relaxation trainings and cognitive restructuring. Cognitive restructuring techniques are also included in some

stress management trainings,which have already been shown to be beneficial in patients with AD. Several studies suggestthat CBT (including cognitive restructuring) is effective in the treatment of chronic itch. In these studies, a combination of relaxation training, cognitive restructuring and habit reversal training were used in adult patients with AD. It is particularly useful in patients with chronic itch and comorbid depression or anxiety disorders, as well as for patients who report that their itch worsens in times of worrying. In patients with AD and psoriasis, such a relationship between catastrophizing and itch has been shown.(8)

Figure 1:Summary of cognitive-behavioral intervention that can be used for the treatment of chronic itch. Itis important to consider though that itch-related factors may influence each other and that then a combination of psychological interventions may be necessary.(8)



Besides, patients and the public should be educated that chronic pruritus diseases (such as AD, psoriasis and urticaria) are not contagious, so as to reduce the social fear of the patients and to ameliorate their interpersonal relationships with their families and others.A bond of trust between the patient and the doctor is essential. For a successful treatment for psychopruritic disorders. Patients

should be educated ontheir disease and ways to improve their itch and to avoid exacerbating factors. individual and group counseling sessions by support groups also act as additional support to the patients and referring to social services for assistance if needed.(1)

Several techniques of relaxation, behavioral modifications, and biofeedback (a technique that involves monitoring the changes in physiologic responses to one's thoughts or feelings) have been reported to reduce itch scratching patterns, improved their skin status, and reduce the use of dermatological care.(8)

Combined therapy: A literature review prompted the implementation of a multidisciplinary itch coping program that comprised of a broad scope of cognitive behavioral methods (self-monitoring, guidance in skin care, and coping skills to manage itch and scratch triggering factors, stress management methods with relaxation techniques, and habit reversal). (8)

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Chapter-5

Obsessive-Compulsive Disorder in Dermatology & Aesthetic Practice

Abel Thamby, T.S. Jaisoorya

Obsessive compulsive disorder (OCD) is a common neuropsychiatric disorder characterised by repetitive intrusive thoughts which are experienced as inappropriate (obsessions) and/or repetitive behaviours that person feels driven to perform(compulsions). The disorder is not uncommon with a reported world-wide prevalence of 1-3% and associated with significant disability. The illness is secretive due to stigma and shame experienced by sufferers; and the general lack of awareness means that most patients with OCD consult a mental health professional 8-10 years after onset of illness. Very often patients approach non-mental health medical professional for the consequence of illness, but detection rates remain abysmal owing to poor understanding of common presentations in non-psychiatric settings. Dermatological presentations of OCD are particularly common, hence it is pivotal that dermatologists are aware of the symptoms and first line management of this not-so rare psychiatric disorder in their practice. It is in this background that this chapter attempts to improve understanding of this illness with a specific focus on clinical aspects pertinent to dermatologists.

Epidemiology

OCD is now considered a relatively common psychiatric disorder. OCD is reported from across the world. Most

epidemiological studies have found lifetime prevalence rates between 2-3% with many more having sub-threshold symptoms. As mentioned earlier, higher rates are reported among patients who visit dermatology clinics with reported rates varying between 9- 35%. Most subjects report onset during late adolescence and early adulthood but childhood onset is also not uncommon. Males have an earlier age of onset but by adulthood some studies have reported a slight female preponderance.

Symptoms

OCD is characterized by two important features-obsessions and compulsions. Obsessions are repetitive, intrusive, unwanted and meaningless thoughts, images or impulses that are difficult to control and generate anxiety. Typical themes of obsessions include contamination, unwanted aggressive thoughts, forbidden thoughts involving sex or religion and need for symmetry or exactness. Compulsions are mental/motor ritualistic behaviours such as excessive cleaning, arranging, checking, counting, repeating or reassurance seeking that alleviate the anxiety associated with obsessions. However, the relief is transient and compulsions can become time consuming or onerous often leading to avoidance of situations that may trigger obsessions and compulsions. For example, a patient with contamination obsessions and washing compulsions may avoid using a public toilet and severely restrict themselves because it may trigger symptoms. The common obsessions/compulsions are detailed in Table 1. Most western studies have reported subjects having a chronic waxing and waning course but Indian studies have reported a better prognosis with approximately 2 out of every 3 patients showing significant improvement with evidence based treatment.

Since reporting of obsessive compulsive symptoms in the community may not be uncommon, making the diagnosis of OCD requires not only presence of obsessions/compulsions or both,

but fulfilment of the time criterion (more than one hour per day), and significant impairment in personal, social and occupational functioning.

Table 1: Common symptoms encountered in OCD

Dimensions	Obsessions	Compulsions
Contamination	Fear or disgust with bodily secretions, fear of contracting or spreading illness	Washing and cleaning ritualistically and excessively
Aggressive	Fear of stabbing someone, pushing someone in front of traffic, images of murder and violence	Repeatedly checking to ensure that no harm is done. Asking for reassurance.
Sexual	Unwanted sexual thoughts about children and relatives, worries about one's own sexual orientation	Repeatedly praying and performing mental rituals.
Hoarding	Fear of throwing away unimportant things as it may come to use in future	Collecting things and has difficulty in discarding them.
Religious	Fear of having blasphemous thoughts, saying blasphemy	Asking for forgiveness from the God. Ritualistically and repeatedly praying.
Need for symmetry	Worries about arranging and aligning books, worries about handwriting being perfect	Performing tasks with excessive perfection. Spending time in ordering and arranging objects.

Somatic	Worries of having a specific illness like AIDS, cancer etc	Repeatedly checking for signs of illness. Asking reassurance from healthcare givers.

Table 2 : Clinical indicators for possibility of OCD during dermatological consultations

- *Repeated presentations with involvement of regions like hands and legs which may have higher exposure to washing.·*
- *Inability to follow advises concerning excessive exposure to water and to keep the affected skin dry·*
- *Lack of satisfactory response despite adequate treatment of skin conditions·*
- *Excessive time spent in washing and cleaning compared to his/her family members or previous self which interferes with normal routine activities·*
- *Reassurance seeking regarding cleanliness.·*
- *Family history of OCD or other psychiatric illness*

Dermatological symptoms of subjects with OCD

The most common symptom of OCD is contamination obsession and washing compulsion; the consequence of which may possibly represent the commonest reason for dermatological consultation for a subject with OCD. Washing compulsions are often manifested by multiple, long and ritualized hand washings, bathing, or cleaning private parts (which are exposed to body secretions). These compulsions may be so elaborate and may extend to hours with excessive exposure of skin to water, soap and at times chemicals like detergent. There have been reports of hand dermatitis, exacerbation of atopic dermatitis, irritant

toxic dermati-tis, or dry skin eczema (eczema craquelé) of the hands in patients with washing compulsions. A high index of suspicion of OCD must be maintained of the underlying cause when patients present with localized atopic dermatitis (lichen simplex chronicus) associated with eczematous skin lesions in the genital, sacral, neck and the extremities. It may be necessary to probe for reasons behind these presentations especially when the presentations are repeated and appear non-responsive to standard dermatological treatment protocols. Uncommonly in the other extreme, infectious (bacterial, viral, and parasitic) skin disorders may develop in OCD patients caused by lack of hygiene due to pronounced avoidance behaviour. In this subgroup, the differential diagnosis should also include other severe mental illness like schizophrenia.Table 2 describes clinical indicators which will suggest possibility of underlying OCD.

Most non-mental health professional hesitate to ask questions pertaining to OCD despite having strong clinical suspicion for same. Screening questions as described in Table 3 may be helpful for assessment.

Psychiatric Comorbidities

Psychiatric comorbidity is common in subjects with OCD. Anxiety and depressive disorders are the most common. Further, subjects with OCD must be monitored for suicidality especially in the context of underlying depression. In the presence of comorbidity, prognosis may be poor and a psychiatric referral may be necessary.

Pathogenesis

Multiple lines of evidence from neuroimaging, genetic, and animal studies in the last two decades have robustly implicated the cortico-striato-thalamo-cortical (CSTC) circuit in OCD. Alongside, the major neurotransmitter implicated is serotonin (5-HT), owing to the differential effectiveness of Selective

Serotonin Reuptake Inhibitors (SSRIs) in OCD. In addition to treatment effectiveness, both genetic and imaging studies support the involvement of serotonergic system in OCD, albeit with some inconsistencies. Other neurotransmitters posited to have a role include dopamine and to a lesser degree glutamate.

Cognitive Behaviour Model of OCD

In addition to neurobiology, psychological models are widely reported, of which the best evidence is for Cognitive Behaviour Model of OCD. The model which forms the basis of treatment with cognitive behaviour therapy (CBT) posits that the cycle of OCD begins with intrusive/distressing thoughts which all people experience occasionally as a random thought. Most people shrug them off as purely meaningless. For some, however, there is an exaggerated sense that the thought is indicative of a significant threat. This in turn leads to an exaggerated personal responsibility to ensure that the perceived threat does not eventuate. This causes discomfort. Because the threat seems real and significant, action of some sort is taken to neutralise the associated risk. In OCD this is the function of compulsions: to eliminate a perceived threat. By taking action to eliminate a threat that was overestimated to begin with, the underlying beliefs that caused the intrusive thought to be interpreted as threatening are reinforced. The action that was taken to neutralise the threat is also reinforced. Hence the cycle of intrusive thoughts (now becoming an obsession) and neutralising actions (compulsions) are likely to be established and repeated.

Differential diagnosis

The repetitive nature of thoughts and behaviours exhibited by OCD patients may be mistaken for many other common psychiatric disorders. In subjects with generalized anxiety disorder (GAD), the excessive worrying may appear like obsessive thoughts, but worrying is about real-life problems and subjects

do not consider it excessive or unreasonable. Similarly in the case of depressed patients the content of the repetitive thoughts are usually of a depressive theme, which are broadly negative views of self, past and future. Rarely subjects with psychosis may be considered to have OCD but in psychosis the themes are typically persecutory (belief that someone is harming), referential (belief that others are talking about subject) or infidelity (belief that ones' partner is unfaithful), about which patients are convinced. *But it is to be remembered that OCD may co-exist with all the above disorders and a dual diagnosis may not be uncommon.*

In addition, OCD shares close phenomenological similarity and higher rate of co-occurrence to a group of disorders which are classified as obsessive compulsive spectrum disorders. Among these disorders the most common are body dysmorphic disorder (predominant theme being preoccupation with appearance); hypochondriasis (preoccupation with illness); trichotillomania (urges/pulling of hair); hoarding (persistent difficulty in discarding possessions regardless of value leading to accumulation); and Tourette's syndrome (characterised by both vocal and motor tics).

Any lack of clarity with regards to phenomenology or diagnosis or comorbidity should necessitate a specialist mental health referral.

Assessment

Several scales are available for screening and assessment of OCD. Yale-Brown Obsessive Compulsive Scale (Y-BOCS) is considered the gold standard for assessment of OCD symptoms and severity. It has a checklist which comprises of 64 obsessions and compulsions and a severity scale but it requires training for administration. Some of the brief self-report scales available are Obsessive-Compulsive inventory, Short version (OCI-SV) and Florida Obsessive Compulsive Inventory. In most clinical

settings, awareness of broad categories of obsessions/ compulsions as described in Table 1 may suffix.

No specific biochemical or imaging investigations are required for diagnosis but if the treating medical professional so feels, broad biochemical parameters including thyroid status to ascertain general health status may be done.

Table 3: Screening questions for OCD in a dermatology clinic

- *Do you wash or clean a lot?*
- *How much time do you spend in taking bath, washing hands or other cleaning activities?*
- *Do you avoid situations or tasks which involve increased washing or cleaning?*
- *Is there any thought which keeps repeating and you are unable to control them?*
- *Do these problems affect you or your family members?*

Treatment

All patients who appear to have symptoms/diagnosis of OCD should be educated. Discussion can focus on the possibility of stress affecting patient's skin lesions and how brain and skin are linked. It is specifically important for patients to be encouraged to seek treatment for their OCD as it may have significant impact on their dermatological condition. The patients should be explained different options of treatment, and if the dermatologist is initiating medications it needs to be specifically mentioned that the improvement may be perceived only after 10-12 weeks. Even if the patient is referred to a mental health professional, it is recommended that patient is kept under follow up for management of the skin diseases. Prescription of emollients and other supportive measures would also aid in improving patients confidence. It also makes the transition to mental health care smooth and comfortable for the patient.

There are two well established effective treatments for OCD, pharmacotherapy with Selective serotonin reuptake inhibitors (SSRIs) group and psychological treatment with Cognitive Behavioural therapy (CBT).

Pharmacotherapy

Pharmacotherapy with SSRIs is often the first line of treatment for OCD in the Indian setting. SSRIs are widely available, tolerable and relatively inexpensive.OCD has a highly selective response to serotonergic antidepressants. Clomipramine, a tricyclic antidepressant with a strong serotonergic effect, was historically the first-line pharmacologic treatment for OCD. However, because of concerns about its safety and adverse effects, selective serotonin reuptake inhibitors (SSRIs) are now preferred for initial therapy. There is consistent evidence for the effectiveness of SSRIs for the treatment of OCD. All SSRIs are equally effective and choice of drug is dependent on patient's choice, potential drug interactions and tolerability. Fluoxetine, Escitalopram, and Sertraline are commonly used in primary care and non-mental health settings in India. The SSRIs commonly used, its doses and side-effects are described in Table4.

To achieve optimal response, patients with OCD require a higher dosage of an SSRI compared to depression. The dosage should be increased over four to six weeks until the maximal dosage is achieved. The trial of therapy should continue for eight to twelve weeks, with at least four to six weeks at the maximal tolerable dosage. It usually takes at least four to six weeks for patients to note any significant improvement in symptoms; a three month trial is generally recommended before effectiveness of the drug is determined. If patient responds to medications, it should be continued for at least one to two years, if not indefinitely. Discontinuation should be in form of a gradual taper over several months, and the original dosage resumed if symptoms worsen.

At least one in three patients will not respond adequately to first line treatment with SSRIs. These subjects may require specialist psychiatric referral. The general strategies employed for this sub-group include augmentation with antipsychotics (Risperidone (1-3mg/d) or Aripiprazole(5-10mg) or Cognitive behaviour therapy (CBT). Other experimental strategies employed for the non-responsive group include trying combination of medications or neuromodulatory strategies like transcranial direct current stimulation or stereotactic neurosurgical procedures.

Table 4. Commonly used first-line pharmacological agent in OCD

Drug	*Starting dose (mg/day)*	*Target dosage (mg/day)*	*Common side effects*
Escitalopram	*5*	*20-30*	*Sexual dysfunction, hyponatremia in elderly, nausea, vomiting*
Fluoxetine	*20*	*60-80*	*Insomnia, agitation*
Fluvoxamine	*50*	*200-300*	*Nausea*
Paroxetine	*20*	*40-60*	*Sedation and anti-cholinergic side effects*
Sertraline	*50*	*150-200*	*Same as Escitalopram*

Cognitive Behaviour Therapy (CBT)

It is a well-established treatment with equal effectiveness and durable effects compared to pharmacotherapy. It is considered as first line treatment for OCD in most guidelines especially for the mild and moderate ones. CBT for OCD typically involves the following core therapeutic elements:

- Psychoeducation: provides information about OCD, the cognitive behavioural model and the processes involved in treatment

- Symptom hierarchy development: Patients and therapists construct a hierarchy of patient's symptoms (obsessions/ compulsions/avoidance). This helps to focus on symptoms with less distress and with increasing mastery progressing to more anxiety provoking symptoms.
- **Cognitive training :** Patients learn cognitive strategies like identi- fying dysfunctional cognitions and undergo cognitive restructuring

Exposure and response prevention (ERP): It is considered the most active component in which client is encouraged to expose themselves to triggers in a graded fashion (symptom hierarchy), encouraged to decrease compulsions and tolerate the anxiety thereby resulting in "habituation" to the distress associated with obsessions, thus breaking the vicious cycle of obsessions and compulsions.

Though CBT has proven effectiveness and should be considered for all patients who show poor response to pharmacotherapy, the major drawbacks is its lack of availability, accessibility and expenditure involved in treatment.

When to Refer?

A referral to a mental health professional needs to be considered when patients have severe illness, lack of diagnostic clarity, presence of multiple comorbidities, active suicidal ideations or suicidal attempts, children/pregnancy, poor response to SSRI treatment or if clinician/patient so prefers.

Conclusion

OCD is common psychiatric disorder with significant disability. Given the secretive nature of illness, most subjects either suffer in shame or report to non-psychiatric medical professionals. A high index of suspicion of this common condition in derma-tological

settings will not only help identifying but also ensure early initiation of first line evidence based treatment for these subjects.

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Chapter-6

Addressing Psychological Issues in Aesthetic Procedures

Amina Asfiya M.I., Manjunath M. Shenoy

Introduction

There has been an increase in demand for aesthetic dermatology procedures in the recent past and in this context proper patient selection becomes inevitable. Since, the specific demand is initiated by the patient, the cosmetologist has the added responsibility of identifying the complex psychological conditions of the patient. The recent advances in aesthetic dermatology including toxins, peels, fillers and lasers have led to the belief that age reversal is possible and cosmetic perfection is achievable. Thus, this chapter deals with assessing the psychological needs of the patient, proper patient selection for optimal outcome and the role of psychiatrist referral in patient evaluation.

Ideal Aesthetic case

It is a difficult task to define an ideal case for aesthetic dermatology. The ideal case depends on the scenario and the condition for which the patient seeks consultation. The treatment of every patient is individualized and those who respond to one form of therapy may not benefit from the alternative. Hence an ideal aesthetic case is one (i) no obvious psychopathology, (ii) clearly defined areas of dissatifaction, (iii) realistic expectations and (iv) a person who has self-motivation.[1]

Assessment of an aesthetic dermatology patient

The assessment of a cosmetic dermatology patient begins as soon as the patient walks into the clinic. The demeanour, the confidence, and the body language of the patient give a clue to the psychological orientation of the individual. The patient must be seated comfortably and with his feet resting on the ground to alleviate discomfort. The patient must be given adequate time to explain his requirements and his concerns to the cosmetologist, who in turn should listen patiently without hesitation. All clients must be reviewed for emotional and psychological stability with the help of preoperative screening methods or other assessment techniques developed by the cosmetologist based on his experience.

S.T.E.P technique[1]

S "Stress" : Always locate the patient stressors and make sure they are realistic. Be up to patient's expectations by having the right tools to deal with them.

T "Target" Ask the patient to target specify the area for correction. It is important to focus on one target at a time.

E "Envision" Ask the patient to envision their perceptions, emotions and how life would be different after the procedure. Do they sound realistic and can you deliver?

P "Proactive" When you realise that the goals are clear with realistic expectations, then be proactive and formulate a specific treatment plan.

Contraindicated patients:

(i) Those with self mutiliation, (ii) major depression, (iii) troubled or agitated on the day of procedure, (iv) patients with suicidal ideation (v) psychotics

Body Dysmorphic Disorder[2,3]

It has been studied that there exists a permanent mind - nervous system - skin connection and reciprocal relation exists between them. Hence, the field of psychodermatology was developed, which can be defined as the concept that encompasses all the personal and social consequences of dermatoses and the mental and emotional mechanisms involved in their origin, maintenance or aggravation.[4] One such psychodermatological condition commonly encountered by dermatologists is called as 'Body dysmorphic disorder (BDD)'. It is commonly considered to be an obsessive compulsive spectrum disorder, seen in 7 % and 15 % of patients seeking cosmetic surgery and around 12 % in patients visiting a dermatologist. BDD is defined as an excessive preoccupation with an imagined or a minor defect of a localised facial feature or body part, resulting in decreased social, academic, and occupational functioning.[1]It has been found that patients with BDD have high prevalence rates of major depression, social phobia, and obsessive-compulsive disorder. Body dysmorphophobia is an absolute contraindication for aesthetic surgery since the patient might find the results disappointing and inadequate, and be unhappy even with an excellent outcome. The various defects that maybe present include changes in skin quality , asymmetry or disproportionality of face, genitalia etc. Patients often present with a false belief of hair loss or hypertrichosis, enlarged pore size, uneven pigmentation, paleness, erythema or abnormal sweating. It has been seen that 71% to 76% of individuals with BDD seek and 64% to 66% receive cosmetic treatment (eg, surgical, dermatologic, or dental) for their perceived defects.[5] It is very important to recognise such individuals and avoid aesthetic procedures in them since the results are unsatisfactory to the patient.

Management of psychosomatic patients seeking aesthetic intervention

The first step in the treatment of a psychosomatic patient seeking aesthetic intervention would be the treatment of the underlying psychological disorder. However, those with somato form disorders commonly deny the psychosocial factors which are associated with their complaints. Hence, recognising such patients is a challenge to the aesthetic dermatologist and referral to a psychiatrist is not always possible. On the other hand, patients with psychiatric disorders are emotionally unstable and lack clarity, in such cases a conservative approach is advised. Structured questionnaires such as Minnesota Multiphasic Personality Inventory (MMPI), California Personality Inventory (CPI) are available for detailed assessment of the patients. Unfortunately, patients can manipulate the results and also the questionnaires are time consuming, hence are not very popular. The best approach would be a detailed history that includes medical history, drug history, psychiatric history, family history of psychiatric disorders etc. Always ask the following questions to the patient:

- What is the specific requirement of the patient?
- Why do they want to get operated now?
- Why does the patient demand the specific procedure?
- Why has the patient chosen the particular cosmetologist?

A good doctor - patient relationship, education about the nature of the disease, results of the defect, psychosocial provocative instances, coping with the defect, past experience and psychosomatic care are invaluable. Pretreatment assessment with photographs and a detailed informed consent in the presence of a relative orwell-wisher is very important during initial psychiatric evaluation.

The motivation for surgery might be either internal or external. Patients with *external motivations* such as to impress their spouse, friends and those looking for better job opportunities by

improving their appearance are not good candidates for surgery as their motivation is passive. Such candidates should be counselled about limitations of surgery so that they accept the outcome. Those with *internal motivations* maybe better candidates for surgery. But, two aspects have to be considered, first one is that, if the cause of psychiatric illness is the defect, then correction of the defect will alleviate anxiety. However, if the patients only focus is on the defect then even if the defect is corrected, they will present with another defect only to extend their neurotic symptoms.[6] (Table 1)

Table 1: Aids in decision- making regarding requested surgery[6]

Surgery indicated	Surgery contraindicated
No serious psychiatric & medical co-morbidities	Serious psychiatric & medical co-morbidity
Visible physical defect	Body Dysmorphic Disorder, suicidal ideation
Minimal risk	No obvious defect
Realistic expectations	Unrealistic expectations
Equipped and confident surgeon	Surgeon shoppers
Planned procedure	High risk & unplanned procedure
Improved with previous procedure	Unsuccessful previous surgeries

Interdisciplinary Approach

In order to address the various psychological needs of patients presenting to the aesthetic clinic, a good interdisciplinary approach is needed. Dermatologists should have inter consultation with psychiatrists and psychologists for a better patient care. The psychological assessment is necessary before any cosmetic intervention such as patients undergoing hair transplant surgery. It has to remembered that only patients with realistic expectations will benefit from the procedure. Thus, it is the duty of every

practicing cosmetologist to understand the patient's emotional complaints and to fulfil the specific requirements of the patient.

Conclusion

- A proper psychological evaluation of all patients is important in order to identify and exclude the patients who are unsuitable for aesthetic procedures.
- The emotional status and initial behavioural assessment of the patient is helpful in identifying the psychological orientation.
- Identifying the patients with an underlying psychopathology and prompt referral to a psychiatrist is vital for the successful outcome of any procedure.
- Dermatologists should familiarise themselves with basic psychopharmacology and simple psychological interventions.

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Chapter-7

Handling the Fairness Malady

S. Chidambara Murthy, Thameena Mohamed

"Beauty lies in the eyes of the beholder", is a famous saying. But, unfortunately , many people do not understand this correctly. Each individual tries to look more beautiful. In India , beauty is almost equated to fairness and fair-skinned people are considered more beautiful. Every person, including a fair-skinned individual irrespective of sex, wants to look more fair. In this quest for fairness they resort to various topical applications, either on their own or known from other sources.

Various creams are available in the market as fairness creams or lightening agents. Many of them are advertised in the media and are available as over the counter (OTC) creams. Topical corticosteroids (TC), either alone or in combination with other drugs, are promoted as fairness creams.

Since its introduction in 1952, TC have been one of the indispensible drugs in the dermatologists' armamentarium. Their anti-inflammatory, antipruritic, immunosuppressive and pigment reducing properties have been utilized in treating various inflammatory and non-inflammatory dermatoses. Since the introduction of hydrocortisone as the first TC, various other compounds have been introduced. The potency of each TC varies and is determined by its vasoconstriction ability. Based on the potency , TC have been grouped into seven groups (Table 1).

Table 1 Classification Based On TC Potency

Class	Potency	Example
I	Superpotent	Clobetasol propionate Gel 0.05%
II	High Potent	Mometasone furoate ointment 0.1%
III	High Potent	Fluticasone propionate ointment 0.005%
IV	Medium Potent	Betamethasone Valerate Foam 0.12%
V	Medium Potent	Fluocinolone acetonide Cream 0.025%
VI	Low Potent	Triamcinolone Acetonide Cream 0.1%
VII	Low Potent	Hydrocortisone Cream 1%

Among the topical preparations sold in India, TC alone constitutes 82% of sale , amounting to Rs 1400 Crores (as in 2013). Although many TC are under schedule H, yet there is unrestricted supply of these drugs, in our country. The situation has resulted in unethical and irrational use of these drugs alone or in combination with antifungal/ antibiotics. As useful TC are, so is the misuse of these drugs, due to their easy OTC availability. This misuse can be at various levels like manufacturing, marketing, prescription, sale or lay persons.

Among the lay persons, the beauty and the fairness craze is responsible for their misuse. Although a myth, TC are considered to have antiacne, antiblemish and fairness inducing properties among general population. This has been misutilised resulting in promoting TC alone or combination, resulting in modified Kligman's formula and their disastrous effects.

In the Indian market, there are about 18 different TC molecules with varied potency. At least a few of them are available over the counter. This menace of TC abuse is not only in our country but also in developed countries like USA. Other

countries like China and Iran are also facing similar situation. The source of prescription may be a non-physician, friend, peer or relative, pharmacist, beautician or on their own. Sadly none of them are aware of the hazardous effects, in the long run. They donot realize that the journey is like riding on a tiger.

The continued application of the TC may be on pharmacists' advice or on their own idea, despite of doctor's advice to stop it after sometime. Most of the fairness creams contain moderate or potent TC, which are deleterious. Continued use of these drugs may result in several severe side effects. The side effects due to topical TC were first recognized a decade after its use. These may develop rapidly with potent TC, although milder TC are not exempt. They include atrophy, telangiectasia, acneiform eruptions, rosacea, perioral dermatitis, striae, increased or altered infections among others.

One of the most important deleterious effects of TC, recognized later was its addiction potential. Kligman and Frosch in 1979, described in detail about this and coined it as "steroid addiction". Addiction refers to craving for a substance, without which they develop withdrawal features. Importantly, they will have physiological as well as psychological effect. Face is the commonest site of misuse, while other sites can also be involved. "Steroid addiction" may have various manifestations, and have been described under different names as light-sensitive seborrheid, red-skin syndrome, dermatitis rosaceiformisste roidica, steroid-induced rosacea like dermatitis. Recently, the entity has been labeled as "Topical steroid-dependent/damaged face".

Topical steroid-dependent/damaged face(TSDF)

This is characterized by a semi-permanent or permanent damage to the facial skin due to improper or prolonged use of TC, resulting in cutaneous manifestations and psychological drug dependence.

Face is the most vulnerable site due to several factors. Increased absorption of drugs due to thin skin, large sebaceous glands, increased sweating occur over face. Added to this sunlight, pollution, repeated friction, drugs and cosmetics also play a role.

Precipitating Factors:

a. Apathetic attitude of bureaucracy
b. Pharmaceutical companies with unethical compounds e.g. Modified kligman's formula, TC in combination with other drugs.
c. Salesmen by inappropriate marketing.
d. Improper prescriptions with regard to the quantity and duration of use.
e. Availability as OTC product at cheaper price.
f. Recommendation from friends, neighbours and relatives.
g. Misuse by the patient beyond the prescribed period or for a wrong indication
h. Fairness craze in general population

Etiology:

Overuse or misuse of TC due to continued application results in side effects and drug dependence. Person develops both physical and psychological dependence on the drug. Stopping the application exacerbates the condition, resulting in continued use of TC and further damage.

Pathogenesis:

The main pathogenesis is the occurrence of a fixed vasodilatation, due to the stoppage of the drug. Several causes are proposed. Rapaport and Rapaport have proposed that the release of endothelial nitrous oxide, which would be inhibited during TC use, causes vasodilatation and erythema. It is further compounded by dermal atrophy and resultant lack of support to

vasculature. It is also postulated that chronic immunosuppression due to the TC application, results in microbial overgrowth, which may act as superantigens. Withdrawal of TC application, may result in rebound inflammatory reaction.

Clinical Features:

TSDF results due to prolonged, unsupervised, inappropriate application of TC, mostly of moderate to high potency. Women are mostly affected. Two subtypes can be recognized, based on the morphology. They are papulopustular type and erythematoedematous type. The former is mostly seen in those applying TC for pigmentary/acneiform disorders and the latter for eczematous conditions. Papulopustular variant is less symptomatic. It is characterized by predominant papules, pustules, erythema and occasional nodules (Figure 1). Rarely edema and burning/stinging may be seen. In the erythematoedematous type, predominant burning/ stinging, pruritus, pain and reduced tolerance for emollients are seen. Clinically, erythema, scaling, papules with or without nodules, desquamation/ peeling and edema are seen. Erythema is the characteristic and common feature of both the subtypes. Associated photosensitivity, dryness, rosacea-like features and pigmentary changes may be seen. Presentation similar to status cosmetics or chronic actinic dermatitis, may be seen.

Figure 1. Severe cystic acne with papules and pustules after modified Kligman's regimen.

Histopathology:

The papulopustular type simulates rosacea, with perifollicular or granulomatous infiltrate comprised of neutrophils and lymphocytes. Dilated dermal vessels and degenerated collagen fibres may also be seen. In the erythematoedematous type, a thin epidermis, spongiosis, hypo or absent granular layer, dermal dilated vessels, sparse perivascular infiltrate, prominent sebaceous glands with inflammatory infiltrates and degenerated collagen fibres are seen.

Course:

On withdrawal of TC, a cycle of erythema/ desquamation, for a few weeks are seen. Intensity of erythema decreases and the resolution prolongs with each cycle, until complete resolution occurs. Previously uninvolved areas may also be affected, during subsequent episodes.

Diagnosis:

History of frequent/ prolonged TC application, burning and confluent erythema, telangiectasia, photosensitivity within days/ weeks of stoppage, is suggestive of the diagnosis.

Management:

Management of TSDF is difficult and is further complicated with the increasing potency of TC and duration of use. Both physical damage and psychological aspects are to be dealt. Psychological support by the treating doctor plays an important role. The patient has to be counseled to use the medications, especially TC, only as prescribed by dermatologist/ physician and not on the advice of unconcerned persons. They must be advised to adhere to the quantity and duration of the prescription. Counseling regarding the damage to the facial skin due to the TC applied, possible events and the course after the withdrawal should be done. The patients must be specially warned about

the flare/ rebound, after withdrawal, lest they continue the same TC or a more potent one. Frequent facewash, especially using harsh soaps must be discouraged. Use of lukewarm water for face wash must be encouraged. Avoidance of cosmetics, irritants like glycolic acid, lactic acid should be done.

Two schools of thought exist regarding stoppage of TC application. While one advocates immediate stoppage, others recommend gradual withdrawal and stoppage. However, in case of potent TC misuse, it is better to switch to a lesser potent TC with reduced frequency of application and stop. Intense burning can be controlled with repeated ice compresses. Bland emollients for dryness and Burrows' solution for oozy lesions may be used. Other topicals like fat free powder suspension, soothing creams, oatmeal lotion and zinc oxide may be used. Topical antibiotics and benzoyl peroxide may be tried. Photoprotection must be advised. Substituition with topical calcineurin inhibitors like Tacrolimus may be tried. Pale sulfonated shale oil 4% cream has been recommended as replacement to TC in atopic dermatitis. Other pharmacological remedies include systemic doxycycline, minocycline, tetracycline, erythromycin and short course oral steroids. Severe burning can be controlled by the judicious use of analgesics, tranquillizers, pregabalin and amitryptiline.UVA/ UVB therapy and isotretinoin have been used in isolated reports. Oral antifungals have been used for resulting democidosis/ Pityrosporal folliculitis.

Prevention:

Political will to enact legislation to avoid easy access to TCfor the public.

Sensitization of the health care providers at different levels (e.g. practitioners, pharmacists, nurses, etc), regarding the side effects of TC abuse/ misuse.

Public education via mass media regarding the damage by continued use of TC.

Warning on the TC preparation itself by the manufacturers, similar to cigarette packs.

Proper counseling during prescription, with regard to the duration and quantity of application.

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Legends to figure:

Chapter-8

Delusional Parasitosis

Narendra Kumar M.S.

A delusion is defined as a false, fixed, unshakable belief not keeping with the patient's social and cultural background. Delusional disorders are encapsulated, monodelusional disorders out of which delusional disorder – somatic type is one. Delusions of infestation or parasitosis is one amongst the somatic type of delusional disorders wherein there is a fixed, firm belief of infestation by parasites. They may have brief transitory hallucinations as well. The functioning may not be markedly impaired, but may be circumscribed around the delusion and behavior may not be odd or bizarre, unlike in schizophrenia. The duration criteria varies across the diagnostic systems with 1 month in DSM-V while its 3 months in ICD-10.

Diagnosticclassificatory systems criteria for Delusional Disorder Table 1

ICD-10 (Persistent Delusional Disorder)	DSMV (Delusional Disorder)
A. A delusion or a set of related delusions, other than those listed as typically schizophrenia.	A. The presence of one (or more) delusions with a duration of 1 month or longer
B. The delusions in Criterion A must be present for at least 3 months	B. Criteria A for schizo phrenia has never been met

C. The general criteria for schizophrenia are not fulfilled	C. Apart from the impact of the delusion(s) or its ramifications, functioning is not markedly impaired, and behavior is not obviously bizarre or odd
D. There must not be persistent hallucinations in any modality	D. If manic or major depressive episodes have occurred, these have been brief relative to the duration of the delusional periods
E. Depressive symptoms may be present intermittently, provided that the delusions persist at times when there is no disturbance of mood F. There must be no evidence of primary or secondary organic mental disorder or of a psychotic disorder due to a psychoactive substance use	E. The disturbance is nota attributable to the physiological effects of a substance or another medical condition and is not better explained by another mental disorder, such as body dysmorphic disorder or obsessive compulsive disorder **Specify:** Erotomanic type Grandiose type Jealous type Persecutory type Somatic type –olfactory/ dysmorpho phobia/ infestation (parasitosis)

Case Vignette

A 63 year old lady, with no medical or psychiatric comorbidities, presented with complaints of 2 months history of ants crawling over the body emerging through the eyes and

repeatedly wiping her eyes and stroking and rubbing her limbs to ward off those ants. At times, she was noticed to be picking from the skin of her limbs and tried showing to us and there were several scars of picking upon all her limbs. There were a couple of instances of having used heavy detergents and one instance of having poured kerosene upon her limbs to rid herself off the ants. She was largely dysfunctional due to the same. On examination, there were no ants found and all the routine investigations including neuroimaging brain were normal. She was referred to psychiatry and responded well to a course of Olanzapine 10 mg which was tapered off after 6 months of continuation. She was diagnosed as Delusional Disorder - Somatic type (Delusional infestation or parasitosis). She had recurrence of the same symptoms, 2 months after stoppage of the medications and she is presently maintaining well on 5 mg of Olanzapine from past 1 year.

Introduction

Delusional Parasitosis (DP) is also known as Ekbom Syndrome is a form of somatic delusional disorder.They have false, unshakeable belief that organisms or bugs are living in the skin and sometimes in other parts of the body. Thiebierge& Perrin described it first and its principal manifestations were described by Karl Ekbom in 1937-1938.

Epidemiology

Incidence of DP vary across the available literature from 0.6 to 20 cases per 1000 presentations a year. The male to female incidence varies from 1:2 to 1:4 (Nicholas L, 2018). The exact prevalence of delusional parasitosis remains unknown. It is more common in middle aged to elderly and the female to male sex ratio would be 2:1 in people younger than 50 years and 3:1 in people older than 50 years of age (Trabert W, 1995). Primary

care doctors and dermatologists are often the first point of contact and psychiatrists are at the terminal end. The mean duration of symptoms would be 3+/- 4.6 years (Trabert W, 1995). Hence, it becomes prudent for the dermatologists to be aware of this condition and also to treat it effectively as psychiatrists are less frequently contacted.

Classification

Table 2

Type of DP	Causes/ Associations
Primary/True/ Autochthonous	Independent of any medical or associated psychiatric condition
Secondary functional	Associated with psychiatric conditions, such as schizophrenia or depression
Secondary organic	Caused by medical illness or recreational substance abuse

(Hinkle, 2010)

Pathogenesis

Though the etiology is multifactorial, but the base is of neurochemical origin. Decreased striatal dopamine transportation (DAT) leading to increased extracellular dopamine underlies the pathogenesis (Huber et al, 2008). The structural lesions were found in the putamen of the corpus striatum in secondary organic DP (Huber et al, 2008)..

Primary DAT inhibitors – Cocaine, Pemoline, Bupropion, Amphetamine and others

Secondary DAT dysfunction – Parkinson's disease, brain injury and others.

The involvement of the striatum and the efficacy of antidopaminergic – antipsychotics in treating DP indicate

dopaminergic dysfunction and fronto-striato-thalamo-parietal brain circuits involvement.

Clinical Presentation

They usually present with a feeling of being infested, experience the sensation of moving insects. Pruritus is reported in majority patients describing it as crawling, burrowing or biting sensation. They would develop skin excoriations, lichenification and frank ulcerations in an attempt to extract the bugs. They often collect samples in bottles, bags, jars or slides in an attempt to enclose the assumed organisms known as "Matchbox Sign" or "Specimen Sign". Those specimen samples would usually be lint, debris, hair, dead skin or some insects, ants, fleas on microscopic examination. They may also provide a detailed description of the organisms as well. Another intriguing feature is that in about 5 – 15% of the patients, the delusion would be shared by a close relative, which is known as "Folie à deux", usually found in a sympathetic, submissive, socially isolated female associate. And the skin histopathology would be completely normal without any specific findings.

Chronic DP would eventually result in scarring and it will have psychosocial and economic impact. Most important would be the impact on body image and self-esteem. They would be at risk of developing anxiety, depression and in rare cases, risk of suicide can also be there which needs to be identified and mandates a timely intervention. The other mental health issue that may arise secondary to it would be the substance abuse and the impairment in the quality of life along with the morbidity.

One should always be mindful of the medical disorders that may present with similar symptoms, which can be grouped as secondary organic causes.

Table 3

Systems	Disease/ Disorder
Neurological	Dementia & Neurodegenerative diseases Parkinson's disease Huntington's disease CNS Tumours Head Injuries Encephalitis Meningitis Multiple Sclerosis Learning Disability
Cardiovascular Disorders	Arrhythmias Heart Failure Coronary Artery Bypass
Renal Diseases	Chronic Renal Failure Dialysis
Hepatic	Hepatitis
Endocrine Diseases	Diabetes Mellitus Hyperthyroidism Hypothyroidism Panhypopituitarism Hyperparathyroidism Acromegaly

Nutritional disorders	Pellagra Folate deficiency Vitamin B12 deficiency
Infectious Diseases	Syphilis AIDS Tuberculosis Leprosy
Malignancy	Breast Cancer Colon Cancer Lung Cancer Lymphoma Chronic Lymphocytic Leukemia
Substance Abuse	Amphetamines Cannabis Cocaine Opiates Alcohol withdrawal
Medicines	Corticosteriods Ciprofloxazin Mefloquine Pemoline Phenelzine

Millard and Millard 2010

Treatment

Step by step approach to establish a good rapport with patients of delusional parasitosis

Table 4

First consultation is crucial
To look, listen and be empathetic
Comfort the patient by saying that this condition has been treated before
Reduce patients agitation or preoccupation
Conduct a thorough skin examination
Microbiological/ parasitological testing to be conducted of the patient's specimens
Examine more specimens in the consulting room and laboratories
Pay attention to drug abuse
Avoid being misunderstood by patient
Acknowledge that the patient's symptoms are real (though delusional)
Avoid premature confrontation with the patient
Delusional patients who perceive agreement or confrontation are difficult to treat
Within 2 – 3 visits, it is possible to explore and discuss the whole illness to the patient
Shakeability of delusion can be estimated at this point of time
Start with non-irritating local therapy for self-induced lesions
For patients with anxiety/ depression, anti depressants can be offered
Psychotherapeutics should only be suggested when you gain patient's trust
If offered, very few delusional patients would accept an antipsychotic agent

Psychiatrist help can be utilized in immediate future
Psychiatric colleague can see the patient in the dermatology ward
When starting anti-psychotics, initially it is better to hospitalize patient
Family members must ensure or monitor patients compliance with therapy
Be cautious if shared delusion exists among family members
Further management is joint consultation with psychiatry department

Millard and Millard 2010

As are the steps in the table above, it is of prime importance to develop a strong therapeutic relationship with the patient. It is important to acknowledge the patients symptoms as real. Pimozide, has been the classical drug of choicefor treating DP. But has side effects like the extrapyramidal symptoms, and needs ECG monitoring in view of the QTc prolongation and T wave changes. In view of this, it has become the second line of treatment. The other first generation or typical antipsychotics have been Haloperidol and Sulpiride.

The current first line treatment are the Risperidone and Olanzapine. These are second generation or atypical antipsychotics which have a better safety profile than the Pimozide. But they cause metabolic dysfunction. Risperidone at 1-8 mg/day and Olanzapine at 5 – 10 mg/day are effective for treating DP. Full remission with second generation antipsychotics is seen in about 75% of cases.

The other medications which have been found to be effective are the Aripiprazole, Ziprasidone and even depot antipsychotics especially in non-compliant patients.

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Chapter-9

Addressing Stigma in Leprosy

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Introduction

There are a number of chronic health conditions that bear the burden of stigma, but perhaps the most powerful image of stigma is that related to leprosy; still a common metaphor for stigma. Weiss recognized this reality and to lay emphasis on it, he disclosed that leprosy had been the only condition for which explicit and exclusive studies of stigma had been supported by the WHO Special Programme for Research and Training in Tropical Diseases (TDR).[1] Leprosy patients have been made to live in segregated colonies outside the communities or in distant islands. Now with availability of early detection methods and effective treatment, patients can take treatment in their homes with reduced incidences of deformities and disabilities. Yet, there is discrimination against people affected by leprosy, which needs to be removed from the public mind, so that they can lead a normal life. References to earlier studies on stigma showed that it is not the disease per se that invokes negative responses but disfigurement and disability caused by the disease that resulted in rejection.[2] Studies show that patients with leprosy , without visible deformity or ulceration do not appear to suffer participation restriction.[3] Even today communities perceive leprosy as a disease from God, the will of God or as a punishment by God.[4]

Stigma

Stigma is defined as "a strong feeling of disapproval that most people in a society have about something"[55] Available from

https://dictionary.cambridge.org/dictionary/english/stigma

Types of stigma

***Perceived stigma*:** An individual assumes that his disease will incite negative behaviour from others.

***Self imposed stigma*:** People affected with leprosy may become ashamed, possibly because of local attitudes and deformity, and may isolate themselves from society, thus perpetuating the idea that leprosy is something shameful to be hidden away. The self-loathing associated with leprosy can be permanent, persisting even after the disease is cured.

Enacted stigma: Negative actions conducted by others to the detriment of labeled individuals.

Institutional stigma: Stigma or discrimination which is part of institutional arrangements or policies. This includes separate clinic arrangements for people affected by leprosy, insufficient arrangements for confidentiality, laws sanctioning divorce or social exclusion on the basis of the disease. Man-made barriers (e.g. buildings without elevators, sidewalks without ramps) may also be seen as part of the same category, as it restricts participation of people with disability.

Causes for stigma

a. ***Beliefs about the causation of leprosy***

Lack of knowledge about aetiology, modes of spread and cure accounts for irrational behaviour. Even educated people and health care professionals can become victims of misconception. Some communities believe that leprosy is a judgement from God for wrongdoing either in this or a previous

life. Those with leprosy are avoided as they are seen as sinful, and those around them do not themselves want to incur that wrath.[6] Likewise, those with leprosy may be avoided in places where leprosy is viewed as a sexually transmitted disease, as something contracted by victims of witchcraft, or as something that witches themselves have. Although there is no one common perceived cause of leprosy, all the beliefs described above are negative and usually imply that the sufferer has done wrong and brought the disease upon himself.[7]

b. *Lack of complete cure in the past*

Until the 1940 there was no effective cure for leprosy, which resulted in the stigma of incurable disease, it was considered like a death sentence.

c. *Disability and deformity*

The most important reason for the stigma associated with leprosy is the deformity and disability caused by the disease. In lepromatous leprosy, there is a characteristic facial appearance that mark sout a patient as having the disease. It is common for patients to request surgery for facial deformities and facial appearance. It has been reported that greater the disability, greater the level of stigma.[8]

d. *Fear*

Fear is a major driving force of stigma. People fear the disease being contagious. In the past, in certain epidemiological settings, leprosy ran in families to the extent that many authorities considered it an inherited rather than an infectious disease. So marriage into a family with leprosy history was forbidden. Fear of the risk of transmission of the disease is often seen even in doctors and other health care workers who are not used to working with leprosy. Despite extensive health education that leprosy cannot be caught through touching someone with leprosy

or sharing utensils, in many societies this reality is yet to lead to behavioural change. The fear of contracting leprosy was sometimes perpetuated by methods of tackling the disease. Treating leprosy apart from other diseases in separate programmes and hospital unfortunately sent out the message that leprosy is somehow different and more infectious than other diseases. Many people still hold this belief and want those with leprosy to be treated away from their communities to avoid others getting the disease. [7]

Effects of stigma on patients

Social life: Leprosy and its stigma strongly affects patient's life, marriage, employment, interpersonal relationships, leisure activities and attendance at social and religious functions.[2] People feel ashamed of having leprosy because they are blamed for having done something very bad to be punished in this way and suffering for "their own fault. For this reason people conceal the diagnosis as long as possible. People internalize these feelings and start withdrawing themselves from social participation. People abandon their own family, because they fear that their presence will have serious negative effects on the family.

Leprosy patients may lose their employment due to the negative attitude of the employers. This causes a financial burden and inability to find a job resulting in further lack of self-esteem. A study reported that 16– 44% of those with leprosy had a fall in their income because of their disease.[9] Younger people who develop leprosy may face difficulties to continue education in schools and colleges due to discrimination.

Effect on treatment and cure: Fear of stigma, and the resulting discrimination, discourages individuals and their families from seeking medical aid. Stigma is a serious obstacle to case finding and to the effectiveness of treatment, which are the major concern of disease control programs.[10] Hiding disease may relieve

their anxiety initially but leads to unavoidable sufferings. The treatable condition remains untreated, it progresses and reaches a stage when even if treated, results in significant deformities. This in turn makes the stigma of leprosy worse and perpetuates the cycle. Once treatment for leprosy has commenced, patients may stop going to clinics or taking their medication (non-compliance) because of fear of rejection by their community or a lack of acceptance of the condition.[11]

Gender Variations

Women are affected more by the stigma than men, suffering more of isolation and rejection and have more restrictions placed on them than men with the same level of disease. If a mother has leprosy, the health and well-being of the whole family can suffer. Fear of passing on the disease can prevent emotional closeness and bonding with her children and also reduce positive health behaviour. Studies have reported that 49% of breast-feeding mothers with leprosy stopped breast-feeding their children.[12]

Surveys to measure stigma

Arole et al. devised a stigma scale and used the findings from focus group discussions and rapid rural appraisal methods to investigate the issue of stigma in Maharashtra. They concluded that people, deformed by leprosy, who lived in communities where there was an integrated health service, did not suffer negative effects of stigma.[13]

Knowledge, attitude and practice (KAP) surveys have been used to 'measure' stigma. Hyland suggested that KAP surveys are not able to reflect the multiple and multi-layered notions related to health behavior which can confound logic.[14] Heijnders' research elucidated the complex dynamic nature of leprosy related stigma and as such it further explains why simplistic methods to measure it are inappropriate.[15] The P Scale is an

instrument that has been validated through an exhaustive process of testing and re-testing in a multinational, multicentric initiative. It does not measure stigma per se, but it does measure the extent to which people participate in common social events. Since the key issue of stigma is that it excludes people from participating in such events, it has been suggested that the 'P Scale' is a valid proxy measure for stigma.[3]

Intervention strategies for stigma

Stigma associated with leprosy is deep rooted, evolved through centuries of misconceptions and myths. There are two components of the approach to tackling stigma in leprosy

a. to help those actually affected by stigma

b. prevent future stigmatization.

It will be more satisfactory and efficient to prevent stigmatization than to try to reintegrate patients already rejected.

a. Spreading awareness and education

Spreading messages regarding the cause, transmission, disease not being hereditary, role of immunity in occurrence of leprosy and availability of treatment helps in demystifying the disease. However, mere information and education will not work. It is imperative to break the barrier between persons affected by leprosy and the rest of the society, by appealing to emotions of people and their ability to empathize with those they feared and shunned.

Education needs to be three-pronged: teaching patients, their peers and young people. Teaching those with leprosy about their disease enables them to beem powered in their treatment and to have the confidence and knowledge to counteract-opposition they may face from others. This can help acceptance of their condition and decrease self-loathing. It is not enough to educate

only patients; their communities need to be educated as well. Education should be tailored to suit the particular community, taking into account local cultural and religious beliefs. Ideally, a local person aware of beliefs and issues in the area should be the educator as communities are more likely to listen to and believe one of their own rather than an outsider. New advances in leprosy need to be explained because much has changed in a relatively short space of time. These advances alter the outlook for patients and their communities; for example with MDT, people are no longer infectious within a few days of starting treatment. Education must be easily understandable, addressing real concerns. Sometimes targeting information at a particular group may help, for example village leaders. It is important not to undermine their authority. Educating the leaders may affect their decisions and allow appropriate information to filter down.

One of the best ways to prevent stigma occurring in the future is to educate young people about leprosy. Children are receptive to information and it is relatively easy to teach them about leprosy in schools and youth clubs. Teaching children has a double benefit, as they tend to pass on what they have learnt to their parents, thereby educating the whole family.

b. Treating leprosy like any other disease

Nondiscriminatory behavior of health care workers/medical officers while examining and treating e.g. dressing the ulcers and counselling can help in preventing stigma. Dr David Heyman, Executive Director of Communicable Disease Programmes at the WHO, says, 'Diagnosing and treating leprosy through the public health system is vital if we are to avoid continuing stigma and prejudice against leprosy patients. Continuing to treat these patients through expensive and separate programmes has been shown to be the wrong approach - for health systems and for the patients they look after. A study showed differences in

attitudes towards leprosy in areas where leprosy treatment was integrated in the local healthcare programme alongside other diseases, compared with areas where it was treated separately. The social stigma of leprosy was rare amongst patients and in the communities using the integrated approach. In contrast, areas where leprosy was treated separately had more self-stigmatization among the patients themselves and high levels of social stigma in their communities.[13]

c. Physical and socio-economic rehabilitation

The disabled must be trained to overcome disabilities and perform their day to day work. New skills can be taught to them, helping them to reduce their financial burden. Training to prevent further disability and deformity is also important. In one group studied in India, 39% of females felt they needed to change their occupation (usually household and agricultural work) to protect their hands and feet. Rehabilitation schemes involving training and setting up small businesses have proved successful, with about half the participants being restored to their initial economic status. It is important to rehabilitate those with leprosy alongside those with disability from other diseases in order to help them reintegrate into their original societies, rather than stay in the confines of a leprosy community. Rehabilitation enables patients to regain their self-esteem.[9]

D. Counselling

People affected by leprosy may benefit from counselling to help them cope with their disease and avoid self-stigmatization and empower them to face discrimination. Individual counseling, however, can be a slow process benefiting only a few patients because of financial and personnel constraints. A better alternative may be group counseling. This has been shown to help by ensuring that those affected by leprosy do not feel alone, as well as helping

them understand and overcome the damaging effects of stigmatization.[16]

Suggested line of action under NLEP

1. The National Rural Health Mission (NRHM) carries out activities for various health related issues including leprosy. The State and District Programme Officers should coordinate with the respective NRHM IEC (Information, education, communication) cell to incorporate leprosy in all the communication strategies under NRHM.
2. Develop strategy with the involvement of the following six groups of persons as partners to fight stigma against person affected with leprosy

a. Civil societies: It is crucial to identify the political and the prestige structures and work through their leadership to create a climate conducive to bring in changes in the mindset of all people. Proper advocacy efforts to involve the civic society at large will be useful only if action is taken at all levels i.e. National, State, District and Local.

b. Social activist: A large number of national and International NGOs work in the country and support persons affected with leprosy (PAL) by providing curative and rehabilitative services. They also work to remove stigma. Partnership with these organizations, other organizations like Bharat Scouts and Guides, Gayatri Pariwar, Faith Based Organization (religious groups) and many others, engaged for the upliftment of the persons affected by leprosy will be invaluable. Involvement of celebrities involved in social upliftment for spreading the messages through them may be very effective.

c. Health care service providers:

- Demonstration of non discriminatory behaviour by all the Health care service providers whether in the Govt. or outside

- Involvement of practitioners of other system of medicines in spreading awareness.
- Involvement of not only Dermatologists but other specialists like Physicians, Surgeons, Orthopaedicians, Plastic Surgeons, Physiotherapists, Microbiologists, community medicine specialists etc in the Medical Colleges / District Hospitals is also very important.
- Hospital managers and superintendents can support stigma reduction by making the hospital systems work without identifying the persons affected by leprosy as a separate group to deal with.

d. Community / Opinion Leader: Opinion leaders can help by supporting and transforming community activities for support of PAL through case detection and referral, ensuring regularity of treatment by the patients, their socio-economic rehabilitation and accepting a cured leprosy in the society.

e. Corporate sector: can be contacted to generate and provide jobs and trades especially suited to or useful for leprosy patients like Garment making, Carpentery and Crafts and allow them to work from their home.

f. Media :

1. Media persons are directly involved in spreading awareness. Continuous advocacy by them can play a positive role. Sensitization of media personnel and writers, folk artists will help in spreading positive messages about disease. Advocacy through media is essential on continuous basis.
2. State level media coordination committees can be of great help in planning activities in the state.
3. Utilise Village Health and Sanitation Committee Meeting on "Village Health Day" to spread specific messages about leprosy through some of the experts for change in behaviour.

4. Develop and use effective, attractive and impressive communication of destigmatizing messages through different Media agencies.
5. During "Health Mela", organize, care and concern camps. Such camps organized jointly by community and health department with the purpose of demonstrating in discriminatory behaviour and zeroing distances along with providing services and educating people have been found to give strong impact.
6. Women based Self help groups : Women from the self- help groups may be sensitized about the disease and their services can be utilized to generate of awareness in villages to reduce stigma
7. Prepare and implement non-discriminatory behaviour guidelines for service providers which include institutions and individuals. Separate clinic room for leprosy in PHC/ CHC/SDH/District Hospital.
8. Empower the people affected by leprosy to overcome discrimination by supporting self care group in leprosy colonies.

"Sasakawa India Leprosy Foundation" has a number of schemes to support the persons affected by leprosy and their children. Coordinate with the Executive Director, SILF, 228, Jor Bagh, New Delhi-110003, ph (011) 42403160, website www.silf.in. and support such initiatives.

These are only a few suggested lines of actions. The programme officers at State/Districts may feel free to work out and implement measures to reduce stigma against leprosy and remove discrimination against person affected by leprosy.

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Chapter-10

Psychological Issues in Patients with Genital Lesion

Adarsh Tripathi, Jyoti Singh, Sujit Kar, Swastika Suvirya

Introduction

Genital lesions can have multiple aetiologies. It can be of infective, autoimmune, traumatic, malignant or inflammatory origin(1). Often it is difficult to differentiate the aetiology of genital lesions merely on the basis of observation. Many systematic diseases and inflammatory cutaneous conditions also attribute to development of genital lesions. Rarely fixed drug eruptions may present with genital lesions(2). Evidences suggest that nearly one fourth of the patients with genital ulcer did not show any pathogen from the ulcer site. Having a genital lesion evokes enormous anxiety and distress in the sufferer.Stigma is often associated with genital lesions.

Due to stigma, people seldom report about their genital lesions in appropriate time to the appropriate health care facility. Hence, there occurs late treatment seeking. Stigma, isolation and impairment in the sexual relationship may add to the stress of the individual(3). Both genital lesions and psychiatric manifestations can have bidirectional relationship.

Genital lesions are known to produce or aggravate psychiatric symptoms and at the same time having a psychiatric illness or major life stress can precipitate onset of some genital lesion such

as Lichen planus(4).In addition, psychiatric illnesses and substance abuse can increase the possibility of risky behaviour including risky sexual behaviour. It can predispose the individual to genital lesions. Comorbid psychiatric illnesses can affect severity of the skin disease, adherence to therapy, outcome as well as overall quality of life of patients. Therefore, understanding psychological issues and their impact in patients with genital lesion is of considerable importance to treating clinicians.

Epidemiology of psychological issues associated with genital lesions

Studies estimating prevalence of psychiatric disorders in patients with genital lesion are scarce.Evidences suggest that the depressive and anxiety symptoms in patients with multisystemic disorders that present with genital lesions (Behcet's disease) is higher than the control group(5).

A study by Dursun et. al; in 2007 found that major depression was the most frequent psychiatric disorder with a prevalence of 17.8% followed by specific phobia (16.4%), generalized anxiety disorder (15.1%) and social phobia (9.6%) (6). A study by Sawant et.al, in year 2015 estimates the prevalence of depression and quality of life in patients with Lichen planus found that the overall prevalence of depression was 25%and quality of life was impaired in more than 90% of patients(7). They also studied prevalence of depression specific to patients of genital and / oral Lichen planus and was 43%. A study assessing overall psychosocial wellbeing and health related quality of life in patients with genital warts found that there was significant impairment in these areas (8).

These findings suggest that psychiatric disorders are major comorbid conditions in patients with genital lesion. Therefore, there is need to study the occurrences of psychiatric disorders in patients with genital lesion so that active intervention can be planned accordingly.

Understanding psychological reactions associated with genital lesions: Psychological sign and symptoms can have a range of presentations in patients with genital lesions. Psychological consequences can be considered similar to reaction to general medicalconditions.

- **Regression:** Regression is a defence mechanism in which an individual's personality returns to an earlier stage of development and adopts childish pattern of behaviour. Patients tend to be dependent leading to avoidance of responsibility of their own care. Becoming dependent on others can lead to delay in diagnosis, problem of adherence to treatment and overall response.
- **Lowered self-esteem:** Having genital lesion can affect one's own body image and self-perception which can significantly lower individual's self-esteem.Having genital lesion may also be considered as a threat to one's sexuality. Individuals can also presume genital lesions as incurable, affecting their fertility and overall reproductive life; thus, leading to lowering of self-esteem. Lowered self-esteem can further predispose individuals to develop other psychological problems.
- **Anger:** Anger and other range of emotions may develop towards sexual partner thereby affecting their relationship . One of the causes of anger could be that they could not protect themselves from developing this disease. Anger may also result in nonadherence to treatment and deterioration of doctor patient relationship.
- **Stigma and related issues:** Sexuality and related issues are one of the least discussed subjects in our society. Stigma becomes an important issue associated with genital lesions. Myths and misconception associated with genital lesions may be responsible_for development of stigma. People often consider genital organs to be exclusively private and feel

reluctance in discussing about the genital lesions as it may breach the boundary of privacy, which attribute to development of stigma. It can be both social and self. Stigma related to genital lesions leads to a great amount of emotional and psychological burden for individuals. It can also affect intimate relationship of individuals. It can affect relationship in three major ways: individual's attitude, emotion and behaviour towards stigmatising condition. Presence of a genital lesion may lead to changes in the way of sexual practices, cessation of sexual intercourse.Suffering individual may feel guilty for being the bearer of a stigmatizing condition. Stigma leads individuals to hide their condition. Keeping secret of their stigmatising condition jeopardizes intimacy with others and opening up about it invites rejection, labelling, and punishment. This dilemma results in different complications in relationship as well as overall quality of life(9).

- **Shame:** Shame developed mainly due to its sexual nature as individual find it difficult to discuss it with others. Affects a patient's decision to tell medical professionals, family, friends, and sexual partners.
- **Stress:** Central to all these psychological consequences is stress. Stress is the basic pathophysiological mechanism for development of psychiatric condition in a patient with medical illness.

A model of life stress and coping suggest the development of any illness behaviour through following steps:

Past experiences→ psychological defences→ physiological reaction→coping →illness behaviour.

Illness behaviour is the way in which individuals experience, perceive, evaluate and respond to their own health status'. It can also be considered as the state when the individual feels ill and behaves in a particular way.

Understanding psychiatric disorders in patients with genital lesion:

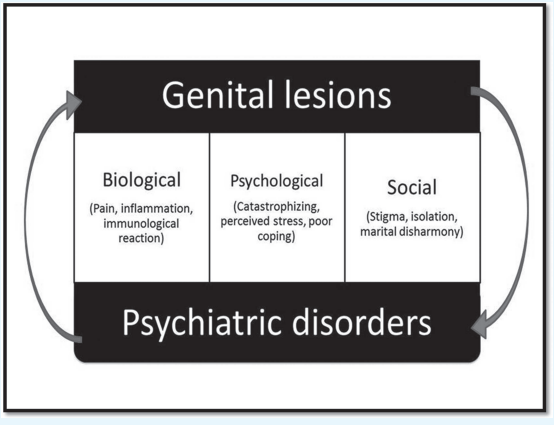
- Depression: Depression is one of the most important psychiatric disorder in patients with genital lesions. Stress of being diagnosed with a stigmatising condition is one of the root cause for development of depression. Many of the patients may have sub-syndromal depressive symptoms and fail to fulfil the diagnostic criteria, still they have significant impairment in day to day life. In patients with genital lesion, depression is one of the important predictor of quality of life. Evolution of depression in these patients further increase the risk of nonadherence to treatment, adoption of unhealthy lifestyle such as smoking, substance use, sedentary habits, poor nutrition which further complicates the clinical condition. Depression in these patients can further amplify the perception of pain and other aversive sensations.
- Anxiety disorder: Patients may become preoccupied with their genital lesions and become worried which can lead to manifestation of various anxiety symptoms and lead to disorder. Individual may become apprehensive about appearance, disclosure about genital lesions, its management and prognosis. Too much anxiety can lead to functional impairment as well as affect the course and treatment of illness. Some individuals may also become preoccupied with fear of death. Anxiety disorders can have a range of manifestations like generalized anxiety disorder, phobic disorder, obsessive compulsive disorder.
- Effect on quality of life and overall functioning: Due to various psychological problems individual's overall quality of life gets impaired and productivity get reduced.

Factors predicting development of psychiatric problems in patients with genital lesion: There are several factors which

can predispose individuals to develop a psychiatric problem. These factors in patients with genital lesion are same as factors in general population.

- Biological factors: positive family history, genetic predisposition
- Psychological factors: coping style, personality traits,
- Social factors: familial support, interpersonal relationship with partner, cultural and religious factors

Other than these general factors, there are some specific biological, psychological and social factors that are unique in patients with genital lesion and attribute to development of psychiatric disorders. The biological factors that are likely to attribute to psychological distress are – pain, degree of inflammation, duration of genital lesion, immunological reactions associated with the genital reason (when the cause is immunological) and side effects of drugs used for treatment of genital lesions. Similarly, the psychological and social factors associated with genital lesions are maladaptive coping style, catastrophizing the illness (perceiving the illness in more intense form than reality), perceived stress, fear of abandonment, myths, stigma, isolation and marital disharmony.

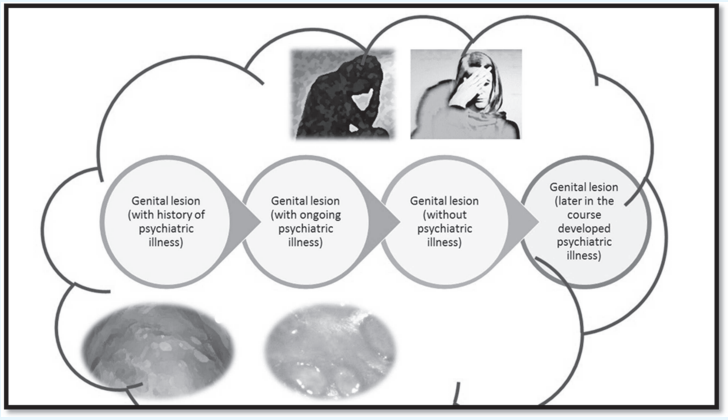


There is a bidirectional relationship between genital lesions and psy chiatric disorders. Genital lesions produce psycho-logical distress to the individual which in turn leads to development of psychiatric disorder. Psychiatric disorders also influence the genital lesions in a similar fashion. Psychiatric disorders attribute to poor adherence to treatment, poor self-care and hygiene as well as dysfunction of the body defence mechanisms resulting in persistence of genital ulcer or worsening of the symptoms.

Effect of genital lesions on relationship status: Getting diagnosed with genital lesion produces great impact on individual's relationship with their partner. Getting diagnosed with a stigmatising condition produces feelings of being impure and repulsive. Confusion about source of infection may cause worry leading to development of infidelity in relationship. Having genital lesion affects both emotional and sexual relationship between partners i.e. their love as well as sex life. Reduced libido, lack of spontaneity due to awareness of having lesion, fear of transmitting disease to partner, negative self-perception all affect sexual relationship between partners in married individuals and desire to seek new partner in unmarried individuals(10).

Consequences of psychological problems in patients with genital lesion: comorbid psychiatric problems in patients with genital lesion can further increase the impairment as well as disability. It can lead to nonadherence to treatment, thus worsening of symptoms. Recurrence of lesion is one of the major problem in individuals with comorbid psychiatric disorder and genital lesion as stress of having genital lesion can further aggravate severity and healing process of lesion leading to a vicious cycle.

Assessment of psychiatric problems in patients with genital lesion:



A clinician, while evaluating for genital lesions must explore about the mental health issues of the concerned patient as patients with genital lesions go through enormous psychological distress.

Psychiatric illness may be associated with genital lesions in four possible ways (Figure 2).

1. Patient with genital lesion may have a past history of psychiatric illness. The clinician need to consider it carefully, because pain, itching and psychological distress associated with genital lesion may cause impairment of sleep and recurrence of psychiatric illness. Sometimes drugs (e.g. steroids) used to treat genital lesions may also precipitate the psychiatric illness.
2. Patient with genital lesion may have on-going psychiatric illness. If the patient with on-going psychiatric illness develops genital lesion, it can be traumatic, poor self-care due to psychiatric illness, promiscuous sexual behaviour due to psychiatric illness resulting in unprotected sex and development of sexually transmitted disease or can be a fixed drug eruption due to psychotropic medications. Patients

receiving psychotropic medications can also have the issue of drug-drug interaction, when prescribed with medications for their genital lesion. On-going psychiatric illness also affect the treatment adherence. So, the clinician need to take a psychiatric opinion in this regard. A collaborative approach will be always beneficial and better than individual decisions.

3. A patient with genital lesion may not have psychiatric illness at all. The myths and unawareness about genital lesion might be developing worries and apprehensions in the individual. An empathetic listening, providing proper health education & reassurance and installation of hope might be the appropriate supportive interventions to such patients.
4. A patient with genital lesion may develop psychiatric illness in the due course of time. Here the association of psychiatric disorder with genital lesion can be a chance association. Other factors that might be responsible for development of psychiatric illness in an individual with genital lesion may be – biological, psychological and social as mentioned above in figure1.

There are some general principles that need to be followed for approaching psychological issues associated with genital lesions. A clinician should be empathic, non-judgemental towards patient with genital lesion. One should use neutral terms. The clinician should ensure privacy and should have a supportive attitude. Hope needs to be installed in the patients as it will influence their attitude towards illness and its treatment. The clinician needs to explore about the coping strategies adopted by the patient to counter the distress.

Management of psychiatric issues in patients with genital lesion: A clinician should be careful while evaluating patients with genital lesion regarding psychological issues both at the time of diagnosis as well as during follow up. As discussed earlier patients may have pre-existing psychiatric problems or

may develop during course of time. Clinicians should psycho-educate patients regarding genital lesion, their aetiology, presentation, mode of transmission, treatment options available(12). Psychological counselling should be an integral part of management (13).After diagnosis of genital lesions, clinicians should educate patients thoroughly because complete knowledge about one's own illness can lower psychological complications to a greater extent. Clinicians should provide knowledge about:

- Natural course of disease, mode of transmission, possible recurrence, transmission during asymptomatic stage.
- Information about all available treatment options, their pros and cons, side effects, management of side effects
- Avoidance of sexual activity during prodromal stage or when lesion is active
- Suggestion to inform new or current partners before starting sexual activity.
- Promotion of use of condoms

Management should be collaborative between clinicians and psychiatrists in case where psychological issues are more problematic and causing hinderance in management of genital lesion.Clinicians should refer patients to psychiatrist in cases they have suspicion for patients to have psychological problems. Followings are the pointers which can predict presence of psychological problems in patients:

- Excessive concern with genital lesion
- Non-compliant to treatment regime
- Deteriorating doctor patient relationship
- Irritability
- Disturbed partner relationship
- Poor functional outcome

Management issues: sometimes there is resistance to getting diagnosed with psychiatric illness which is mostly due to widespread stigma. So, there is need to address that issue appropriately.

Another issue is treatment of both the conditions at the same time as there will be increased rate of noncompliance to medications, increased risk of side effects and drug-drug interaction. Most of the drug-drug interaction are due to common metabolising cytochrome enzyme systems. Interaction involves either inhibition or induction of cytochrome P450 enzyme systems leading to decrease or increase in drug level(14).Following are some important drug-drug interactions between psychoactive and dermatological medications.

Corticosteroids: these are known to induce or inhibit the CYP3A4 enzyme system depending on its dosage, making prediction on the level of co-administered drug difficult to interpret. Many of the antidepressants (citalopram, fluvoxamine), antipsychotics (haloperidol, pimozide) and antiepileptics are known to experience decrease in serum concentration when co-administered with steroids. In such cases there is risk of drug toxicity specially during tapering of steroids. Combinations of steroids and immunosuppressants along with psychoactive drugs such as clozapine, valproate, carbamazepine, mirtazapine may increase the risk of bone marrow suppression.

Antibiotics: macrolides such as erythromycin and clarithromycin are known to cause significant drug-drug interaction due to inhibition of CYP3A4 enzyme system. Macrolides are known be associatedwith QT prolongation and life-threatening arrhythmias(*torsades de pointes*) may develop when combining*Tricyclic antidepressants* (TCAs) and other antipsychotic agents such as haloperidol and pimozide.

Antifungals: Antifungal agents mainly interact through CYP3A4 and CYP2D6 enzyme systems. Azole agents are known to increase the concentration of many drugs through enzyme inhibition such as benzodiazepines, carbamazepine, phenytoin, risperidone, zolpidem. So, one has to be cautious while prescribing these combinations. Terbinafine has significant interaction with selective serotonin reuptake inhibitors (SSRIs) and serotonin and norepinephrine reuptake inhibitors (SNRIs) through CYP2D6 enzyme.

Future directions: First and foremost, there is scarcity of epidemiological studies assessing psychiatric condition in patients with genital lesion so the need of hour is to study the burden of psychological conditions in these patients. Once the gravity of problem will be known, it will be easier to study the appropriate interventions for these conditions. The other area which needs to be emphasised is awareness of clinicians regarding basic knowledge of common mental illnesses, their presentation, basic management and appropriate referral to a psychiatrist in case of need. The need is of appropriate liaison between psychiatry and allied discipline of medicines. It is considered that multidisciplinary approach to an illness is the ideal approach for an illness so this should be applied in case of management of genital lesions. Basic sex education should also be provided so that prevention as well as reporting of these problems is enhanced.

Conclusion

Genital lesions in an individual can cause psychosexual and psychological morbidity. It carries great impact on one's mental health and can lead to various psychiatric symptoms and even disorders. So, providing patients with detailed information about their infection and how it is transmitted and managed is an essential part of care for patients with STIs. In addition, emotional and psychological support is also often required to

help patients deal with the interpersonal issues that often arise in relation to these infections.

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Chapter-11

Approach to Sexual Problems in Dermatology & Aesthetic practice

Anil Kumar Mysore Nagaraj

Introduction:

Sexual activity is a multifaceted activity, involving complex interactions between the nervous system the endocrine system, the vascular system and a variety of structures that are instrumental in sexual excitement, intercourse and satisfaction. Skin is one among those vital structures. Touch, caressing and foreplay are the key sexual activities that involve skin and represent desire.A variety of dermatological disorders are associated with transient or permanent disfigurement of skin. This can affect sexual activity in various ways. In this chapter, we will discuss the overview of sexual disorders, how different dermatological and venereological disorders affect sexual functioning; and the approach towards their management.

Overview of Psychosexual Disorders:

Kaplan has defined the 'Sexual response cycle' as consisting of three sequential phases- desire, arousal (excitement) and orgasm.However, the division is arbitrary and it only helps to organize clinical and research oriented problems involving sexuality. In clinical practice sexual desire, arousal and orgasmic difficulties more often than not coexist, suggesting an integration of phases. The loss of sexual interest and sexual aversion disorder are the common disorders associated with desire phase. The

arousal phase is associated with female arousal disorder and male erectile disorder. Anorgasmia is a disorder of the orgasmic phase in females. In males premature and delayed ejaculation are the orgasmic phase disorders. There are other psychosexual disorders that do not necessarily fall in one of the above phases. These include vaginismus and dyspareunia in females and 'Dhat syndrome' in males (Table 1). Different dermatological and venereological disorders can be associated with some of the above psychosexual problems.

Table1: Classification from Psychosexual disorders.

Type of disorder	Men	Women
Desire	Male hypoactive sexual desire disorder	Female sexual interest disorder
Arousal	Erectile disorder	Female sexual arousal disorder
Orgasm	Delayed ejaculation, Premature ejaculation	Female orgasmic disorder
Pain	Penodynia, Scrotodynia	Genito-pelvic pain/penetration disorder, Vaginismus
Other (culture bound syndromes)	Dhat syndrome, Koro	-

The link between skin and sexuality:

Even today open discussion of sexuality is considered a taboo especially in developing countries. This may be bidirectional. Even doctors do not make it a point to ask about it as a routine. The opportunities to talk about sexuality arise only in connection with diseases that have a shameful character. Studies have shown that the doctors who initiate the discussion of sexual problems

with patients estimate the percentage of sexual disorders higher than those who never or rarely ask about this.This is very relevant to dermatologists.

Beautiful skin is considered erotic and attractive and elicits a desire in the observer to touch it, while diseased skin may cause disgust and aversion. Thus more than anything else, the stigma plays an important role. Also, having to cope with chronic diseases like psoriasis or burns, induces negative mood states as serious as severe depression and consequently compromise sexual functioning. Thus the presence of the disease itself causes reduced self-confidence and sexual self-esteem. However organic factors related to the dermatologic disorders can cause sexual dysfunction. Some examples include systemic sclerosis causing penile vascular damage and corporal fibrosis in males; and sclerosis causing fissures and dyspareunia in vulval lichen sclerosus in women. Thus it is essential that the dermatologists are aware of basic sexual medicine and ask their patients regarding sexual problems.

Although majority of these disorders are managed by psychiatrists/psychologists, the role of the dermatologist is very important. They can rule out organic causes and educate regarding sexual anatomy and physiology.

The common Disorders of sexual function:

1) **Hypoactive sexual desire disorder:** There is persistently or recurrently deficient (or absent) sexual fantasies and desire for sexual activity. This causes marked distress or interpersonal difficulty. This can be seen in men and women of all ages and is not uncommon. Though depressed mood state and hyperprolactinemia are the most common positive correlates, this can also be associated with body image or self-consciousness arising due to various dermatological

conditions. The management is predominantly psychological with multimodal cognitive and behavioural approaches. Flibanserin, Bupropion and transdermal testosterone and estradiol are all effective pharmacological options based on the etiological factor.

2) **Female sexual arousal disorder:** This involves persistent or recurrent inability to attain, or to maintain until completion of the sexual activity,an adequate lubrication- swelling response of sexual excitement.It can be organic or psychogenic. Localized estrogen therapy in the form of a vaginal ring, cream or tablet, Ospemifene a selective estrogen receptor modulator, testosterone, flibanserin are all effective in the treatment.

3) **Erectile dysfunction (ED):** This is defined as persistent or recurrent inability to attain or to maintain until completion of the sexual activity, an adequate erection. This can be psychogenic, organic (hormonal, arterial, neurogenic) or mixed. The skin diseases causing penile abnormalities may impair erections owing to pain or deformity. These include foreskin problems like phimosis and lichen sclerosus, penile curvature problems like Peyronie's disease and benign/ malignant genital dermatoses. Fibrosis within the corpus cavernosum can also cause ED. Oral PDE5 inhibitors are the mainstay of the treatment for ED. Testosterone, psychotherapy, life style modification, male prosthetic devices and vacuum pumps are the other approved treatments.

4) **Female orgasmic disorders:** There is persistent or recurrent delay in, or absence of, orgasm after a normal sexual excitement phase. The causes are multifactorial like anxiety, relationship problems, religious norms, medications, medical comorbidities. Cognitive behaviour therapy, couple counselling, antidepressants, increasing clitoral stimulation during coitus are the recommended therapies.

5) **Premature Ejaculation (PE):** PE is persistent or recurrent ejaculation with minimal sexual stimulation before, on, or shortly after penetration and before the person wishes it. It is the most common psychosexual dysfunction in men with a prevalence rate of 20-30%. Ejaculation mostly happens within 1 minute of vaginal penetration. Robust cortical representation of pudendal nerve, hypersensitivity of the glans penis, disturbances in central serotonergic neurotrans-mission, medication, recreational drugs, thyroid disorders are the proposed etiological factors. Management is by a combination of pharmacological, psychological and behavioural treatments. SSRIs, Tri cyclic antidepressants, benzodiazepines are effective, prescribed after consultation with a psychiatrist.

6) **Sexual pain disorders:** These are of 2 types. Dyspareunia: Recurrent or persistent genital pain associated with sexual intercourse in either a male or a female. Vaginismus: Recurrent or persistent; involuntary spasm of the musculature of the outer third of the vagina that interferes with sexual intercourse.Treatment for dyspareunia includes therapeutic exercises to desensitize, stretch and strengthen perineal soft tissue and pelvic muscles through Kegel exercises, along with other procedures like relaxation, postural education, and biofeedback. Researchers have found Cognitive Behavioural Therapy (CBT) useful in the treatment of vaginismus, especially if it is of psychogenic origin.

Dermatological diseases and sexual dysfunction:

Among various skin diseases, association between psoriasis and sexual dysfunction is the most extensively studied, as it is commonly associated with Psoriasis. A study reported 58% erectile dysfunction among patients with Psoriasis. Multiple hypotheses have been proposed to explain sexual dysfunction in psoriasis. Low self esteem, feelings of shame, stigmatization are the

psychological causes associated with sexual dysfunction. Psoriasis is also associated with diabetes, hypertension, endothelial dysfunction and hyperlipidemia- the organic factors associated with sexual dysfunction. Psoriasis can cause erectile, ejaculatory and orgasmic dysfunction. Sexual dysfunction occurs in a variety of other dermatological diseases. Another study on Lichen Simplex Chronicus inferred that patients with LSC had a 1.74-fold greater risk of developing ED compared with those without LSC. A study assessed the effect of vitiligo on genital self-image and sexual function among women. It revealed a negative correlation between the Vitiligo Area Scoring Index score and sexual satisfaction. Table 2 summarises the different disorders and the sexual dysfunction they are associated with. In addition, Finasteride, a medication used in different skin ailments can commonly cause erectile, ejaculatory and libidinal problems.

Table 2: Dermatological diseases associated with psycho sexual disorders (The below table is a compilation of results from different studies adopted from Narang et al, 2016).

Disease	Disease Association
Psoriasis	In males, erectile dysfunction is more frequently seen in patients with mild disease and genital lesions. In females, dyspareunia and decreased frequency of intercourse.
Atopic dermatitis	Erectile dysfunction
Lichen simplex Chronicus	Erectile dysfunction
Hand eczema	In males, erectile dysfunction and low female sexual functioning in females
Neurodermatitis	Low female sexual functioning with decreased desire, arousal, orgasm and satisfaction

Vitiligo	Poor self image, sexual dysfunction, difficulty in reaching orgasm.
Chronic urticaria	Sexual dysfunction, difficulty in reaching orgasm more in females than males.
Systemic sclerosis	Erectile dysfunction in up to 81% patients to the impaired penile blood flow due to both myointimal proliferation of small arteries and corporal fibrosis.
Acne inversa	Increased sexual dysfunctions and sexual distress in female patients.
Lichen sclerosus	Low female sexual functioning index (decreased desire, lubrication, orgasm, satisfaction and more pain).

Managing sexual dysfunctions in dermatology/cosmetology clinic:

Most problems can be identified by a thorough history taking and examination wherever necessary. Feeling stigmatized is a central experience in these patients. Psycho-education addressing stigma and inhibitions is the most important aspect of treatment. Stigma can be better addressed by regular awareness programmes to patients and the by-standers in the clinic/department. Adequate privacy is to be ensured while assessment, including gender and cultural sensitivity. A female patient may be comfortable with a female dermatologist. Also, presence of partner during examination may be important if the patients desire so. The evaluating dermatologist/cosmetologist needs to be polite, use firm monotonous voice, be non-judgemental and maintain an unhurried approach. The history can include sexual and marital history, patient's attitude and knowledge about sex, medical comorbidities and medication. Different medication including antidepressants, antipsychotics, antihypertensive drugs can cause sexual dysfunction. The patient should then be educated

thoroughly about their problem based on their level of education and background, as ignorance and misinformation about sexual dysfunction is common. Offending medication can be stopped or substituted as needed. Where medication cannot be stopped or substituted, watchful waiting sometimes can be helpful. Drug holidays over weekends is also an option. STIs are also associated with psychosexual disorders due to stigma. Once assessed, the patients can be referred to a psychiatrist/psychologist depending on the case. Ongoing treatment after the initial consultation, especially for continuation of medication, can be followed up by the dermatologist/cosmetologist in liaison with the referred psychiatrist.

Conclusion: A variety of dermatological disorders are associated with disfigurement of skin. This can affect sexual activity in various ways. Among various skin diseases, association between psoriasis and sexual dysfunction is the most extensively studied, though other disorders like lichen simplex, vitiligo, atopic dermatitis etc are associated with sexual difficulties. Most problems can be identified by a thorough history taking and examination from the psychiatric perspective. Psycho-education addressing stigma and inhibitions is the most important aspect of treatment. Once identified, the dermatologists can liaise with a psychiatrist for management.

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Chapter-12

The Art of Counseling Patients with Dermatological Condition

Tanu Gupta, Naresh Nebhinani

Introduction

There is a strong interrelationship between mind and skin, as living with a skin disease can significantly impact the emotional and psychological wellbeing of an individual. Comorbidity of psychiatric problems is common in dermatologic disorders. Approximately 30% of all dermatologic patients show psychiatric disturbances (Gupta & Gupta, 1996).Psychodermatologyis a recent medical subspecialty that describes the link between dermatology, psychiatry and psychology and how psychological factors can interact with the pathogenesis of skin diseases. Dermatology is linked with external aspects of an individual personality (physical appearance) where as psychology emphasizes the internal representation of an individual (psyche). Psychodermatology emphasizes on holistic approach to the patients with skin problems that comprise both the physical and psychological aspects of personality. Although the importance of looking good is the most highlighted aspect of any individual's personality in today's world but the clear connection of looking good and feeling good has also been established in scientific literature. This connection is popularly known as mind body/ skin relationship.

Biopsychosocial Approach

Literature consistently cites the evidence of significant association of various psychosocial factors underlying or associated with skin disease. Biopsychosocial approach to dermatology emphasizes on the need for comprehensive assessment and management of patient on social, psychological and biological factors within the context of his/her developmental stage and cultural background. e.g. an adolescent girl presented with acne might be more vulnerable to experience psychological distress due to her ongoing developmental stage and culture wherein these skin problems do have social implication of teasing and bullying.

Biopsychosocial approach recommends screening of each patient for possible predisposing, precipitating, and maintaining factors such as:

- Medical/biological factors: age, gender, metabolic syndrome, obesity, sleep deprivation
- Psychiatric /psychological factors: comorbid body dysmorphism, depression, anxiety, stress, substance abuse
- Social factors: cultural background, teasing, bullying, stigma, social discrimination, shame etc.

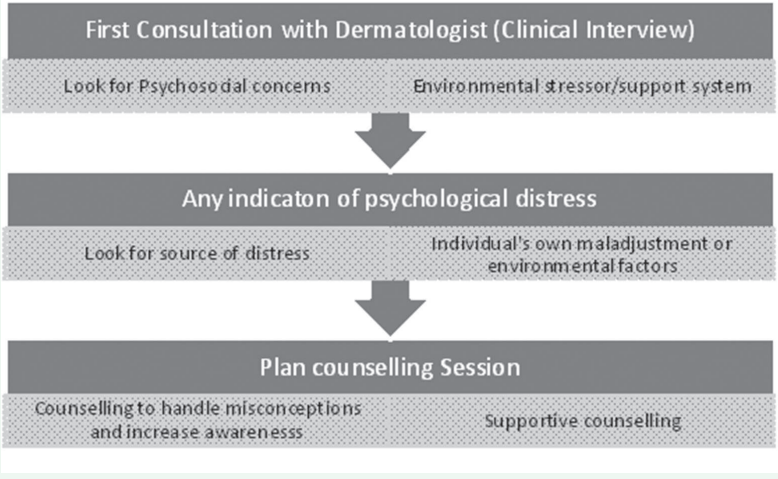
Comprehensive assessment of these biopsychosocial factors has the potential to significantly alter the outcome and prognosis of skin problems. Furthermore, dermatologists can utilize these factors into case conceptualization of each patient and plan targeted interventions as per the need of the patients.

Psychosocial aspects of skin problems

Literature consistently supports the association of common skin diseases such as psoriasis, acne, eczema, vitiligo, atopic dermatitis etc. with poor quality of life and significant psychological distress. Most dermatological problems have

bidirectional association with psychiatric problems wherein the incidence of psychiatric disorders is increased in patients with dermatological problems and the increased incidence or exacerbation of dermatological problems has also been observed due to high level of psychosocial stress. However, the severity of the psychological stress does not always determine the severity of the skin disorder. For some patients, having a small blemish or acne can be cause of concern as much as for someone who has a more severe form of skin disorder like psoriasis or vitiligo. The common psychosocial problems associated with skin diseases are: stress, anxiety, depression, suicidal ideation, irrational fears, decreased self-confidence, increased frustration, poor self-esteem, body image disturbances,delusional beliefs, body dysmorphism, emotional problems, sleep problems, relationship issues, anger, shame, negative thoughts, stigma, social discrimination, social isolation, and impairment in socio-occupational functioning (Green, L., 2010).

Assessing the need for counselling



The need for counselling can be assessed by the dermatologist during their first consultation with patients. If there

is an indication of psychological distress or environmental stressors, then the counselling sessions can be regularly scheduled with patients. The educational component of different dermatological illnesses can more efficiently be delivered by dermatologist within the initial counselling sessions and further supportive counselling can be integrated in the overall treatment/consultation process.

Counselling for dermatology patients

Counselling is a psychological process of providing psychological support, essential education, motivation and coping skills to deal with ongoing dermatological illness. It can be used as an adjunct or complimentary treatment to address the psychosocial concerns of the patient. The first and foremost important step is to establish a therapeutic relationship between client and counsellor. The relationship is special and different from the other acquaintances wherein a trained person deliberately establishes a trusting and confiding relationship. Counsellor maintains professional boundaries and follows the principle of confidentiality throughout the process. Empathy and unconditional positive regards towards the patient are essential ingredients of counseling. Empathy is basically to understand the other person pain by putting yourself to his/her place that further encourages a patient with skin disease to feel secure in counselling setting. Counsellor also extends the unconditional positive regard to the patient where he/she accepts the patient unconditionally without passing any judgments.

Purpose of counselling

The basic purpose of counselling is to help the dermatology patients to understand his/her illness, ensure active participation in the treatment process, gain insight about the precipitating and maintaining factors of problems,understand the indirect pathways (negative thoughts, negative emotions) that exacerbates the skin problems and learns alternative ways of thinking and coping.

Levels of counselling

Psycho-educational counselling

This involves the part of educating patient about the nature and type of illness. What is the general course of the illness, treatment options available and prognosis of the illness? It also involves the discussion about the general understanding of the patient and family about the illness and myths or misconceptions about the illness.

Supportive counselling

In supportive counselling emotional and psychological implications of the diagnosis is dealt in a supportive and caring manner. It also helps the patient to handle the diagnosis and to understand the need for regular compliance. Supportive counselling is generally being done with chronic skin problems.

Psychotherapeutic counselling

Psychotherapeutic counselling is used to manage various psychological problems such as excessive stress, anxiety, depression, suicidal thought, stigma, negative thoughts etc. This level utilizes different approaches of counselling such as psychodynamic approach, behavioural approach, cognitive behavioural approach or humanistic approach as per the need of the patient and expertise of the therapist. It further instigates healing, psychological adjustment, stress management, coping and problem solving.

Counselling approaches

There are many different approaches to counselling however psychodynamic approach, person centered, behavioural approach and cognitive behavioural approach are the most commonly used approaches.

Psychodynamic approach

Psychodynamic approach to counselling evolved from the work of Sigmund Freud. During his career as a neurologist, he

came across many patients with medicalconditions withoutany 'physical cause'. This led him to believe that the origin of many such illnesses might be the result of intrapsychic conflicts originated from the unconscious mind of the patient. So the focus of the psychodynamic approach is to resolve the intrapsychic conflict of the patient to bring out a change inpersonality.

Humanistic approach

Humanistic approach to counselling emphasize on the uniqueness and inner potential of every individual. It assumes that every individual has an innate capacity to grow emotionally, psychologically and achieve the goals of self-actualisation and personal fulfilment. Carl Rogers was considered as pioneer in the field of humanistic approach. He developed Client-Centred Counselling, which focuses on the client's inherent resources and abilities to handle their feelings, thoughts and problems. Counsellor encourages the client to find out solutions of their problems by being empathetic, non-judgemental and genuine.

Behavioural Approach

Behavioural approach to counselling is based on the assumption that all maladaptive behaviours are 'learned' and, therefore, it can be unlearned. Behavioural counsellor tries to identify the undesirable behaviour along with its antecedents and consequences and then try to modify the behaviourby changing the antecedent or consequence through contingency management.

Cognitive behavioural approach

This approach is based on the assumption that our emotions, behaviours and thoughts are interrelated and can influence each other.Specifically, our thoughts determine the way we feel or behave. Cognitive behavioural approach aimed at identifying the negative automatic thoughts and replacing them with other alternative thoughts.

The choice of approach is being generally decided by the counsellor based on his/her training or expertise as well as the presenting symptoms. The common presenting complaints of Atopic dermatitis patients are anxiety and depression. Psoriatic patients often present with depression, anxiety and stress induced flares. Acne vulgaris is significantly associated with distorted body image, poor self-esteem, depression, social anxiety, decreased confidence and anger. Cognitive behavioural approach is recommended as evidence based cost effective approach for managing psychosocial problems of dermatology patients.

Counselling: Structure &Process

Counselling is effective for those patients who have some insight about their psychological problems associated with skin condition. Generally, the insight is missing inpatients with skin conditions at initial stages because they are more concerned about the physical aspect of the diseases. Here the dermatologist can play an important role to induce insight in the patient by carefully guiding the consultation process. It is very important to explain the need for counselling in dermatology patients as they are not looking for psychological treatment. So the rationale for counselling should be conveyed as a first step in the consultation process if there is need for referral. However, clinician need to be patient enough to handle the queries as well as resistance of the patient as inculcating insight can be a difficult task with some patients.Counselling sessions are generally scheduled as biweekly or once in a week as per the need of the patient. It can be done in individual sessions or group format.

Initial process of counselling focused on the relationship building and exploration of the psychological problems pertaining to the illness that provide a comprehensive understanding about the psychosocial adjustment of the individual. It includes the assessment of patient's current environment, support system,

patterns of relationship, his/her understanding and acceptance about the illness, coping mechanisms used and an overall idea about the personality of the patient. The goals of the counselling are mutually agreed upon between the patient and counsellor during initial sessions.

Psychoeducation

Initial sessions are generally utilized for psychoeducation because intellectual understanding of the illness is considered as an important milestone in the overall process of healing and change. It also address the patient's reaction towards an illness, as sometime they may feel overwhelmed and find it hard to understand what is happening to them and also feel frustrated by a strict schedule of medication or hospital visits.

Normalization

It is very important to normalize and accept the patient's concerns or negative emotions (guilt, rejection, shame, embarrassment, anxiety etc.) without any personal judgment or bias. The presence of negative emotions in patients with dermatology illness may make them highly critical towards their ownself,so here the use of unconditional acceptance by the counsellor can help the patient to share comfortably and accept their illness as a part of their own self.

Symptom relief

People with dermatological illnesses such as eczema, psoriasis, alopecia, atopic dermatitis, vitiligo etc. often struggle with a poor self-image and low self-esteem. In severe cases, the skin problems can invite teasing and social rejection that further interferes with their social and interpersonal relationships. Theymay also experience sleep disturbances, severe anxiety and depression that further add on to stress of the individuals.So the common presenting symptoms of dermatology patients are

reported to be anxiety, depression, stress, disturbed interpersonal relationship, sleep disturbances, body image issues and low self-esteem. After educating the patient about the illness, the focus of counselling is on symptom relief. The counsellor tries to target the most distressing symptom. E.g. a woman having acne presented with severe anxiety can be educated about the relationship of stress with exacerbation of acne. Counselor will teach her the relaxation exercise to manage her anxiety. Similarly sleep disturbances can also be managed through explaining the basic principles of sleep hygiene. Supportive counselling utilizing reassurance, ventilation, and catharsis can also be used to relieve the severe psychological distress in initial sessions. Once the patient gets settled and comfortable in the counselling process, we move on to the phase of skill building.

Skill building

This phase of counselling utilizes various techniques to enhance the skill repertoire of the patient to enhance his/her coping ability to manage stress, anxiety, depression and other negative thoughts.

Relaxation training

Relaxation training is the basic skill to manage anxiety and stress associated with skin condition. There are different relaxation techniques available however deep breathing and progressive muscle relaxation are the most commonly relaxation techniques in our clinical practice.Deep breathing is a simple yet most powerful and easy to learn relaxation technique. It can be practiced anywhere, and provides a quick relief to intense anxiety and stress. Progressive muscular relaxation is a two way process wherein an individual is asked to tense and relax the different muscles systematically from head to toe. He/she is asked to feel the difference between tension and relaxation and enhance the relaxation response in your body.

Habit reversal training (HRT)

HRT is a behavioural treatment technique to manage a variety of repetitive behaviours. It has been successfully used to treat various skin conditions such as trichotillomania, skin picking, tics, nail biting and thumb sucking. The basic premise behind the use of this technique is that certain maladaptive habits/ repetitive behaviours act as a trigger and enhance the possibility of skin damage e.g. dry skin or eczema often cause itching which further led to the behaviour of scratching that will promote the chances of skin damage and slow down the process of healing. So the vicious itch-scratch cycle goes on wherein the patient feels that this behaviour is out of control.

HRT can be applied effectively in such patients. The goal of HRT is to change the maladaptive habits by replacing the negative behaviours with neutral actions. HRT includes 3 stages:

1) ***Awareness training***

The patient is asked to give a detailed description of the problem behaviour in order to identify the specific triggers and situations in which the problem behaviors such as pulling or picking is most likely to occur. This enables individuals to become more aware of the early warning signs of the maladaptive behaviour,and therefore provides opportunities to employ therapeutic strategies designed to discourage performance of problem behaviours.

2) Competing response training

It teaches the individual to practice the competing response to substitute the problem behaviours of pulling or picking. For example, when a patient experiences an urge to pull or pick, he/ she is asked to practice incompatible behaviour of clenching the fist or lock their arms by tighten the arms muscles or grasping an object so that pulling or picking becomes impossible at that

moment. Repetitive practice of competing response has the potential to replace the maladaptive behaviour.

3) Social support

It includes enhancing the motivation to control the maladaptive behaviour by involving the family members or other supporting person into the therapy process in order to provide positive feedback when the individual engages in competing response and also reminding the person to practice competing response if he/she indulges in problem behaviour again.

Social skill training

Dermatology patients may also present with high level of social anxiety and social skill deficits. They generally indulge in behavioural avoidance of social or interpersonal situation to avoid the negative reactions or judgments of others. Some patients with acne or psoriasis would try to avoid social situation due to high anticipatory anxiety about rejection from others which was not found to be in proportionate with the severity of their illness. They also experience heightened sense of self-consciousness that further impacts their interpersonal relationship negatively. Social skills training include the training of various skills such as communication skills and assertiveness. These skills help the person to express both positive and negative feelings in the interpersonal context. Assertiveness training is a part of social skills wherein a person is trained to express one's opinion and ones right without violating the rights of others.Communication skills training involve the effective use of verbal and nonverbal skills to communicate our needs to others and comprehending the other person's perspective.

These skills are generally taught using the various behavioural learning techniques within the counselling session such as modelling, reinforcement, shaping, behavioural rehearsal,

positive feedback and generalization in various social contexts. Effective use of assertiveness and communication skill leads to self-confidence improved interpersonal relationships, better self-control and improved decision making ability.

Cognitive restructuring

It is the most effective technique of cognitive behavioural approach. Patients with different skin condition do suffer from poor body image, low self-esteem and low self-confidence. They may also harbour various negative thoughts about their skin disease, their physical appearance or about their own self-worth. Sometimes these negative thoughts may take the shape of cognitive errors that further complicate the recovery process. By using the technique of cognitive restructuring, counsellor tries to identify and change the dysfunctional beliefs. As Cognitive behavioural therapy approach assumes that our thoughts, emotions and behaviours are interconnected. Soa change in dysfunctional thinking leads to a consequent change in the patients' emotional and behavioural responses. It inculcates the skill of identifying and modifying the negative ways of thinking by challenging them with questioning the evidence and behavioural experiments. Cognitive restructuring is most useful for those skin conditions that significantly impact the self-esteem of the individual.

Termination & relapse prevention

Finally, in the end, patients are encouraged to rehearse and generalize all the skills learned. Before terminating the counselling process, the therapist prepares the client for termination through relapse prevention counselling. It involves teaching clients to identify potentially high risk situations and triggers of negative emotions, thoughts and behaviours. Patient is also motivated to use the skills learned independently in future. The responsibility for maintaining change lies with the client

however he/she can always revert back to counsellor in future whenever he/she feels incapable in handling future challenges.

To conclude, psychosocial needs are varied, therefore aholistic, multidisciplinary team approach is preferred to treat any patient with dermatological illness for effective prevention and timely management of psychological disorders as well as better treatment response for dermatological disorders.

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Chapter-13

The Art of Addressing Adolescents in Dermatology & Aesthetic Practice

Gopal Das

Adolescence is a special phase in human development marked by onset of spurt in physical growth and hormonal surges.There is also advancement in cognitive abilities, heightened emotionality, drive towards establishing an identity, expansion of interpersonal and social contacts, moral and ethical dilemmas often resulting in a stormy or turbulent phase. Adolescence brings never-before experienced changes in body and also mind which also reflects in significant changes in thinking style and behaviour. These changes may be perceived in myriad ways depending on the temperament, environment, upbringing and psychosocial status of the adolescent.[5,6,13]

Behavioural changes in adolescence[5,6,13,15]

Onset of adolescence brings in various behavioural changes where they get curious, explore and experiment with their body, new found cognitive abilities, thinking and emotionality. These attempts reflect on their interpersonal relationship with family members and peers, social acceptance, need for acceptance and appreciation, despising rejection by others, a drive towards socialization, expandingviews on social, political, religious and spiritual aspects, exploring and experimenting their sexuality. Physical appearance, behaviour and attitudes with sexual overtones and possibly appeasement, ability to emotionally bond

takes a higher priority than ever before. This results in a constant need to present themselves as better and prove their abilities especially among peers. Physical appearance and confidence are most commonly considered by teenagers as must-have and positive qualities which are in turn intimately connected to their self-esteem. Personality attributes, skills and emotional maturity are only later considered, possibly in late teenage and early adulthood, usually in third decade.[5,6]

Skin being the largest organ and outwardly visible, often becomes the area of concern. Due to various physiological changes in teenage, skin is very commonly affected by these changes during which texture, complexion alters, sweat and sebaceous glands become more active causing various issues like acne, scarring, black heads, etc. These may affect the cosmetic appeal of the adolescent especially when changes are inappropriate. Body odour starts appearing and change significantly from childhood, facial, axillary and public hairs appear which also adds to need for adaptation to the new changes.

Adolescence and aesthetic concerns[8,10,13]

Though not particularly starting at this age, adolescents generally start focusing more on their evolving bodies, appearance and also get more beauty conscious as they grow. Each of them has their own ideals and beauty goals. This results in conflicts between their endowed body and personality characters on comparison to their ideals. Face, hairs, skin complexion, beauty and body figure are few domains in physical appearance which may often lead to conflicts in teenagers. Media, culture - folklore and upbringing unconsciously lead them to goal setting. E.g., being fair complexioned, absence of acne and blemishes, having long and dark hairs, blue and bright eyes, long and slender nose, curvy or pouting lips, high cheek, bright and perfectly aligned teeth and even perfectly situated mole or

absence of flecks or moles. When it comes to body figure, females desire a curvy, slender body. Breast size, appearance including symmetry takes very much cosmetic importance; too less or too much results in conflicts. Males desire a tall, fit, athletic and muscular body with broad shoulders and flat abdomen while, too lean or too fat is not preferred and leads to conflicts. Desire to have fair complexion and blemish free facial appearance among males is no less and leads to conflicts in males too. While this is the normally occurring part of development in teenagers, some may develop increased non-acceptance of their appearance or constant preoccupation of having ugly body parts. These lead to dysphoric sensations, low self-esteem and urge to correct it by various available means, including various herbal, native, dermato-surgical and other cosmetic procedures including plastic surgeries.[7,] Extreme cases may subject themselves to harsh methods and repetitive corrective surgeries despite being advised against. This may involve significant financial and health care burden, loss of productivity, physical and psychological distress. Body dysmorphic disorder (BDD) and eating disorders - Anorexia Nervosa (AN) and Bulimia Nervosa (BN) which are now included under obsessive compulsive spectrum of disorders can be mentioned in this context. These are discussed in detail elsewhere under appropriate context. The core criteria include repetitive and prolonged preoccupation of having unacceptable body parts or concerns on weight gain and becoming obese[6. Their behaviour comprises of significant avoidance of food or attempts towards shedding weightand improve aesthetics. The purpose is to identify these disorders in non-psychiatric setting which primarily include Dermatology OPD and consultations for aesthetic surgeries.

Adolescent Sexuality and Venereology[5,13]

Due to various physical and hormonal changes occurring in the body, adolescents' focus increase on their sexually erogenous

bodily and psychic sensations. These new sensations evoke a mixture of responses in an adolescent and their exploration on self and others relating to these experiences increase. Interest in heterosexual interactions becomes prominent. They also start experimenting with their sexuality wherein they would be more prone to have casual sexual encounters, both hetero and homosexual in nature. Currently, with the universal availability of social media and less restrained access to mobile phones, explicit contents both in mainstream media and streaming internet media, sexual and violence filled gaming, adolescents are being exposed very early before they can comprehend and understand thelong-term consequences of this exposure in their lives. This makes them inclined towards engaging in sexual encounters much earlier than previous generations. Because of widespread lack of systematic sex education and poor knowledge on risks involved, preventive measures and liberal access to these, chances of them contracting sexually transmitted disease are possibly higher than sexually active adults. The risks of unwanted pregnancies also are high which lead on to untoward consequences including illicit abortions and even deaths due to complications or suicides.

Common dermatological conditions in adolescence [1,2,4, 9, 14,16]

Sebaceous Gland and related disorders: Acne, Seborrhic dermatitis or dandruff

Contact dermatitis, allergic and atopic dermatitis

Infectious conditions like tinea, viral warts and molluscum contagiosum etc

Psoriasis

Vitiligo

Common Conditions of Venereological importance in adolescence[1,2,4]
HPV and genital warts are probably most common infections
Genital herpes
Gonorrhoea and chlamydial infections also causing PID in females
Trichomonal infections in females
SyphilisHepatitis B and C virus infection
A special mention to HIV infection which is increasing among adolescent group.
Common conditions encountered for aesthetic enhancements in adolescents[4,8,1217]
Oto and Rhinoplasty
Breast reduction and correction of gynaecomastia in boys
Breast augmentation
Treatment of hirsutism
Treatments for Acne scar and striae

Adolescent concerns

What is to be understood in general by patient concerns?

Apart from the actual symptoms of illness and the diagnostic work-up plus management plans, patients who are the sufferers would be having many ideas on what they could be actually suffering, its causation model in their own understanding, whether correct or wrong, and most importantly expectations on the treatment methods and its outcome. Amidst these, at each level, starting from before deciding to visit the doctor to completion of treatment and recovery, the verbal and non-verbal,

overt and subtle information they get exposed to, before, during and after the consultation rises many questions in them. It is this bunch of questions which form in their mind can critically affect the therapeutic process and needs to be addressed.When physicians do not give adequate attention to the patient concerns, a gap in understanding is created.This gap often determines level of patient satisfaction and attitudes. Adolescents being more unstable in their emotionality, givenlesser ability to completely understand all the aspects of a therapeutic circumstance and poorerlong-term views, this gap is significantly evident in adolescent consultations especially in non-emergency settings, chronic symptoms and aesthetic improvement aspects.

What are the common Adolescent concerns related to Dermatology/Venereology/Aesthetics consultations?[4,8]

Genuine concerns arising from severity of symptoms

E.g., Acne covering whole face or cheek, pustules or scarring with pain and disfigurement arising out of it, pain and discharge from a sexually transmitted disease, gynecomastia preventing a teenage boy from mingling with peers in situations like exercises, swimming etc., macromastia resulting in back pain and even scoliosis.

Arising out of comparison

E.g. – peers and kin having absence of symptoms and stories of being treated with various methods even if they had such symptoms. Seeking consultation based on the above and expecting similar results being generalized. Using various cosmeceutical products, aesthetic procedures and even plastic surgeries by hear-say basis and also internet resources.

Arising out aesthetic enhancement concerns

E.g., Feeling inadequate or being ugly which is directly or indirectly concurred by kin and peers even though there are no

significant clinical symptoms. Media and peer depiction of concept of beauty and appearance in order to be popular and successful also plays a role. Blemish free face and skin, sculpted body free of unwanted fat, right size of breasts, perfect nose, ears and lips etc. in order to enhance beauty and get recognized among peers or to overcome from low self-esteem. Many studies in aesthetic surgery has described high satisfaction after a procedure which has improved the self-esteem but right selection of candidate is a prime prerequisite for the good outcome.

Arising out of lack of knowledge

Lack of knowledge on the ramifications a clinical condition may have, its cause, treatment options, whether to get treated or not, risks and benefits of a treatment makes way for many concerns. Especially in consultations relating to venereology and some skin disorders like vitiligo and psoriasis, stigma hinders adolescents from accessing authentic information and seeking consultations. Educating about risky behaviours, safe practices, correction of myths, handy information on disorders with stigma along with treatment options and reassurance would adequately address these concerns

Arising out of psychological problems or psychiatric disorders

Conditions such as Body dysmorphic disorder, eating disorders may have persistent, severe and prolonged course of symptoms relating to chronic dissatisfaction. Social Anxiety disorder, depression and other issues related to temperament of the adolescent may lead to significant low self-esteem because of perceived unsatisfactory bodily appearance even in the absence of any aesthetically impairing conditions. These in fact become relative contraindications for aesthetic surgeries and other procedures and often result in poor outcomes and perhaps legal entanglement.

Arising out of external pressure or coercion

Sometimes, peer pressure and parental pressure to get treated and enhance aesthetics may influence the consultations. Depending upon the temperament of the adolescent, these influences may be variably accepted-internalized or resisted by the adolescent. E.g., to undergo treatment of acne scars, fairness enhancing treatments for adolescent girls for the future ease of getting matches. Issue of informed consent may play an important role in this kind of settings.

How to address the adolescence concerns?

Adolescence marks the onset of operational (concrete and then formal operational stages) cognitive stages in which their ability to compare, analyse information, derive hypothesis and deducing enormously increase and brings in reasoning. These reflect in marked increase in cognitive abilities, social cognition and moral development which makes their abstraction, problem solving, decision making capacities much better than childhood. But they do not always end up in sound decision making as their abilities are vulnerable to emotions, stresses and peer influences. [5,6,13]

As a Physician, it is of utmost important to understand what does a patient has in her/his mind and their expectation from the doctor. Addressing the concerns would be more difficult than just making a right diagnosis. Hence, it needs the understanding of how an adolescent think and behaves, their level of understanding and myths they might be harbouring before venturing into the treatment unless it is an urgency.

Establishing a good rapport with them is of paramount importance for the above. As a physician, many of us may have paternalistic attitude which would be somewhat appreciated by typical Indian and especially rural mind-set. But adolescent mind-set is basically an evolving one, curious, seeking identity and

respect, need to be heard and appreciated. They often rebel to authority, both actively and passively. Hence, to establish a right level of rapport and to go further requires us to modify this attitude and take up on a friendly, receptive and curious attitude of knowing them without judging their opinions, beliefs and perhaps most importantly their complaints. They seem to have their own theories of causation, questions, perceptions of treatment often with unrealistic expectations and dramatic results.

How adolescent consultations are different and challenges faced in the adolescent consultations. What they want and what they don't?

They expect clinician to listen to them first and then talk to significant others such as parents. They appreciate if their opinion is given importance and not neglected.

Adolescents appreciate the need for confidentiality, even from parents and siblings but may sometimes appear liberal with peers and friends. This needs to be sorted out early in the consultation as this can seriously impact the information and lead to misdiagnosis and mismanagement. Pre and post consultation sessions with parents in case of significant issues in the absence of adolescent may be considered, especially when psychiatric problems including suicidal risks are suspected.

They expect them to be addressed as grown-ups and treated in adult way but often not ready to take responsibility of negative outcomes.

Generally, adolescents have less farsightedness and long-term concerns regarding both the clinical condition as well as treatment outcomes.

They tend to have more myths and information from non-authentic sources like peer discussions and internet.

They generally expect dramatic improvement from the treatment regardless of the severity and chronicity of the condition

Though not universal, adolescents are generally impatient for long educational sessions and complicated advises e.g., life style modifications and long-term goals which includes a behavioural and environmental modification. These may not be very successful as they may not be consistent enough to do these.

Planning management

Before making our plans, following aspects should be clearly understood

- Clinical significance, severity of the symptom and the diagnosis it is leading to.
- Reason or grounds on which consultation is sought and intervention is planned.
- Expectation from the adolescent patient on the outcome of treatment.
- Ease of the treatment, financial aspects, duration of treatment.
- Disfigurement or disability resulting by not treating or perhaps even treating.

Right at the level of history taking, it is advisable to assess the distress associated with symptom and the underlying reason for seeking consultation. Whether it is just a relief from pain/ unpleasant sensation/discomfort, alleviation of disfigurement (actual and perceived) or cosmetic concern/ aesthetic enhance ment. Various rating scales, structured interviews, subjective report forms may be used to reliably assess distress and other concerns. Wherever a comorbidity is suspected, especially serious underlying causes and psychiatric disorders including suicidal ideations, prompt liaison may be initiated. [5,6,11,13,14]

A typical interview of an adolescent patient, 15-year-old girl from a semi-urban locality, studying in 9th standard.

Doctor: Hi, I am Dr. XXX, consultant dermatologist here.

Patient: Hi Doc/Hi Sir/Madam, I am XXX

After addressing accompanying persons if any.

Doctor: Well, Ms XXX, what brings you here and how may I help you?

If patient allows you to use first name, you may use it but make sure to address using surnames/second name while using vernacular language. Also always offer to talk to adolescent patient first than the accompanying person. Offer to talk alone by asserting that it is the right of any patient to talk in private and there is no choice for the accompanying person than respecting it. If patient choses to talk in private, arrange for the same. Otherwise, proceed as it is. During the consultation, explicitly tell that whatever is discussed in the consultation absolutely remains confidential and without the consent of adolescent, it will never be revealed to anyone including parents. This bring enough confidence and sets the stage for the patient to open up.

All this process in reality takes 2-3 sentences, a smile, an open hand gesture and a little assertion, hardly takes a couple of minutes. It avoids many hours of complications in future and also engages the patient and encourages for follow-up visits if necessary.

Patient: Doctor, I have few issues to talk but let me start with the many pimples I am getting off-late and any creams I apply are not helping me.

Doctor: oh, that's quite concerning. Since how many days or weeks this is worsening?

Patient: I am having these from 2 years but for2 months, these are becoming redder and filled with pus and it hurts sometimes. I have been applying this XYZ cream I saw in ad which helped my cousin but not me.

Doctor: hmm ok,do not worry about it, we have treatment and few general lifestyle changes to help reduce the pimples. We shall discuss them in a short while.

Patient: Why does this happen to me! Many of my friends in my class doesn't have it this bad. My face is looking ugly. I am getting teased because of it. It is embarrassing to go to school now!

Doctor: That is quite concerning!

Patient: I had such a nice skin when I was a baby. See this thing now, I am scared that my face will get scarred for ever, like those ugly old witches they show in cartoons! My pimples on nose making it swell and become plump and my nose literally looking like a witch's nose.

Doctor: Hmmm I can see that you are very distressed by this. Apart from pimples, is there anything which is bothering you ?

Patient: Doctor, I have another issue. Please don't tell it to my parents (any person of parental authority). I am very embarrassed to share it but I have this redness in my groins and privates that is getting itchy day by day. It has some odour too. I used some talc and it is not subsiding. I did some perfume and it hurts.

Doctor: Oh,I understand it can very difficult to share. Do you have any boils or scabs over groins and inside of your privates or its just redness and do you have any discharge?

Patient: It is redness and it is spreading down and I am scared if it extends outside my panty line and if my mother notices it! I am scared what if she scolds me of getting intimate with someone! She noticed I am friendly with a boy and advisedme to stay away from him.

Doctor: Ok, I will examine you after we are done talking. Can you please tell me what do you mean by 'getting intimate'?

Patient: Oh, that's ok doctor. He is XYZ, my classmate and my neighbour. We played and grew up together. After I started having periods, my mother is not letting me to get along with him or any other boys like before. Once, when we were alone, we did get intimate few times but nothing more. I don't want to do those things but just got excited few times.

Doctor: ok, are you concerned with anything in particular?

Patient: Doctor, does this redness has anything to do with sexually transmitted disease? I am scared. I have heard of AIDS and herpes are STDs. I did nothing wrong. We didn't even have skin contact but just made out with clothsor do we get infected even then? Does it make me unfit to marry or have children in future? He is a good boy too and I like him a lot.

Doctor: Ok XX, relax. I am here to help you.

Patient: Yes Doctor, but I am not sure whether it is appropriate to tell at you. There are two more issues bothering me.

Doctor: You can discuss any matter that might be troubling you. If it's not appropriate for my specialty, I will refer you to concerned specialist. Go on...

Patient: I think, I am kind of fat. My thighs are plump and my belly is not flat. My friends are so lean and good looking.

I feel My breasts are large and saggy. I have heard of some fat reducing treatments which takes away my body fat and make me slim and beautiful. Will I be able to get it along with the treatment for pimple? And also, I have started dieting and controlled my eating to least possible quantity but somehow, I end up eating lot of pizza. I can't control. Will you help me in this? Do I have to undergo any surgery for this?

After taking associated complaints, negative histories, past and treatment histories.

Doctor: From our discussion, I get that you are concerned about pimples and permanent scarring. Secondly, about your groin redness and itching and worried that it could be a STD. finally about your body shape.Is that right?

Patient: That's all Doctor. Thank You for giving me time. I am relieved there is someone who can listen to my problems. I couldn't have told this at my parents and siblings or even friends.

When should a physician be alert? [3, 7, 18]

Age - though cosmetic concern can arise from age of less than 3 years, but it is the adolescents who get utmost concerned. Developmental maturity has to be considered. When dealing with an unusual request in younger adolescents, such as Rhinoplasty, Breast enhancement/reduction, facial aesthetics, bariatric surgeries, possibility of underlying psychological issues should be considered and always ruled out when these surgeries are not medically indicated. Age is also a statistical number for informed consent. Even one day less than legal age of consenting (which is 18 completed years) can practically lead into trouble. Sincere efforts should be made to have a date of birth proof for all adolescent consultations, whether OP or IP.

Disproportionate distress - when the presenting symptom is associated with undue distress, emotions or urgency and also with unrealistic expectations from the outcome of treatment, psychological issues may be considered.

Repetitive presentation – should prompt to consider possible underlying comorbid psychiatric disorder

Harbouring suicidal or self-harm ideas – anywhere during the therapeutic encounter, if ideas of harming self or suicidal ideas are exposed overtly or subtly, a prompt referral to mental health professionals would be necessary and also consider communicating to the family.

Ethical and legal concerns of adolescent treatment[3,8,11,17,18]

First of all, developmentally adolescent body and mind has not yet attained maturity and still growing. Interventions may result in complications.

Decision making in adolescents is affected by immaturity and may not amount to true informed consent even if some have passed the legal consenting age. They may not realize risks involved and realistic outcomes.

Legal age of consenting and parental involvement

Confidentiality issues and exercise of privileged communication, especially with parents in cases of teenage pregnancies, sexually transmitted diseases, HIV infections, malignancies etc., where in an adolescent may not be able to handle the diagnosis whether or not they have passed the legal age of consenting.

Conclusion

Treating patients in adolescent age group is challenging regardless of the expertise and clinical acumen. A Physician has to understand the ways an adolescent behaves and be considerate and tolerant enough to give margins for the same. Generally,

concerns arise from severity of symptoms, an adolescent's perception of self and his/her appearance, self-esteem, peer influence, aesthetic concerns, underlying psychological problems, psychiatric disorders and even external pressure. Striking a good rapport is of importance which help in eliciting the deep concerns even on a seemingly less challenging and routine clinical problem. Friendly, open and genuine, appreciating and non-judgmental way with less lecture and more discussions are the type of attitudes they expect from doctors. This helps in engaging an adolescent patient in treatment. Therapeutic justice can be done only with better patient cooperation and understanding.

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Chapter-14

Psychopharmacology

Kiran Kumar K.

Psychopharmacology (from Greek *psykhç*, "breath, life, soul"; *pharmakon*, "drug") is the branch of pharmacology that deals with study of the actions, effects, and development of psychoactive drugs.

Psychotropics have been used since antiquity for both recreational and therapeutic purposes. Noah celebrated with wine, and Plato philosophized about its appropriate use. Paracelsus knew the value of *laudanum*, and Pinel not only unshackled the insane but also prescribed opium. Up to the end of the 19th century, bloodletting was a well accepted treatment for almost everything. Until the middle of the 20th century, pyrotherapy, i.e. causing a bacterial abscess or malaria to induce a fever, was considered a routine treatment for psychosis. But with the introduction of Chlorpromazine in the early 1950s, a whole new Pandora's Box came into existence and currently psychopharmacology has become a major part of medical practice.

Psycho-dermatological conditions are common in clinical practice. They may present as primary psychiatric disorders such as delusions of parasitosis, dermatitis artefacta etc., or as chronic dermatoses such as atopic eczema or psoriasis, who may have co-morbid psychiatric morbidity. The associated use of psychotropic drugs, is essential for these patients, as their skin lesions can worsen if the underlying psychopathologies are not

treated. Thus, knowledge and confidence in prescribing the most commonly used psychotropics aid the management of the psychiatric symptoms associated with dermatoses, as well as the management of dermatological symptoms triggered by psychiatric syndromes.

Clinical situations in which knowledge of psychotropics is required of the dermatologist:

1. Management of dermatological symptoms associated with psychiatric disorders;
2. Management of psychiatric symptoms associated with dermatological conditions, such as depression in patients with vitiligo;
3. Management of adverse effects associated with the use of psychotropic drugs;
4. Management of other pharmacological effects of these medications, such as the anticholinergic and antihistaminic effects of antidepressants and antipsychotics.

A. Classification:

There has never been a consensus about how to classify psychotropic drugs. The terminology describing it is continually evolving. As a rule, agents are organized according to structure (e.g., tricyclic), mechanism (e.g., MAOI), history (e.g., first generation, traditional), or uniqueness (e.g., atypical). Whatever the approach, a principal consideration in drug identification is its major clinical application.

In this article the following class of medications will be described;

1. Antipsychotics (Neuroleptics, Ataractic, Major tranquilizers)

2. Antidepressants

3. Antianxiety (Anxiolytic, Minor tranquilizers)

4. Mood stabilizers

B. Principles of Prescribing Psychotropic Medications:

I. Before Initiating Medications:

1. Establish a proper working diagnosis (differential diagnosis), through appropriate case history, physical examination and laboratory parameters.
2. Before prescribing, be aware of substance use, co-morbid medical problems and potential drug interactions.
3. Identify target symptoms (eg. Sleep disturbances, panic attack, hallucinations etc)
4. Enquire about previous treatment response, medication histories of biological relatives and history of side effects.
5. Cost of the medication (Pharmacoeconomics) is detrimental in drug selection.
6. For off-label use of medications, use the available evidence for making a clinical decision and document the same.
7. Quantify the symptoms/syndrome with the help of inventories or clinical rating scales for objective assessment.
8. Finally the familiarity of the treating physician with the molecule and preference of the patient is essential.

II. Administration of Medications:

1. Once a drug is chosen, administer a full trial with adequate doses and duration of treatment.
2. Be aware of side effects, and warn patients in advance if appropriate (eg. about sedation, GI upset, sexual side effects etc) and take concerns about side effects seriously.
3. When possible, keep regimens as simple as is possible both to improve adherence and to avoid additive toxicity.
4. Engage patients in a dialogue about the time course of expected improvement.

5. Patients who are psychotic, demented, retarded or suicidal need careful supervision from family or other caregivers to adhere to their regimens.
6. Readjust the dosage of medications to determine the lowest effective dose for the particular stage of the patient's illness.
7. In elderly and special population (children, pregnancy) *start low, go slow* is the mantra.
8. Follow-up care includes evaluating efficacy of treatment; monitoring and managing side effects, treatment-relevant intercurrent life events, and co-morbid medical, dermatological and psychiatric conditions; obtaining and evaluating appropriate laboratory data, and when necessary, planning changes in the treatment regimen.

III. Discontinuation of Medications:

1. Adjunctive and combination therapies may be appropriate for certain conditions, however when medications no longer prove useful to the treatment regimen (adverse effects, drug-drug interactions, no response) it is critical to discontinue them. It may be difficult to determine that a medication has failed unless the physician has kept track of objective target symptoms from the beginning of the trial.
2. After apparent therapeutic success when discontinuing psychotropic medications, it is best to taper dosage slowly, which can help prevent rebound or withdrawal.

IV. Ethical aspects of drug prescription:

1. The basis of ethical prescribing is the practitioner's comprehensive knowledge of risk and benefits of drug therapies. This will be derived from evidence-based approaches where possible.

2. The doctor-patient relationship is the appropriate frame work through which this knowledge is communicated to the patient.

3. The therapeutic partnership between patient and doctor must lead to true informed consent, which includes the right of competent patients to refuse treatment.

1. Antipsychotics (Neuroleptics, Ataractic, Major tranquilizers)

The antipsychotic drugs are the cornerstone of treatment for Schizophrenia and other psychotic disorders. Currently they also play an important role in the treatment of bipolar disorders.

ANTIPSYCHOTICS

A. Typical Antipsychotics **B. Atypical Antipsychotics**

A. Typical Antipsychotics:

These agents are called as dopamine receptor antagonists (DRAs) because of there high-affinity for antagonism of dopamine D_2 receptors. They are also known as first-generation antipsychotics or conventional antipsychotics.

A.1. List of Drugs:

Chemical Class	Generic Name
Butyrophenone	Haloperidol
Dibenzoxazepine	Loxapine
Diphenylbutylpiperidine	Pimozide
Aliphatic phenothiazine	Chlorpromazine
	Methotrimeprazine

Piperazine phenothiazine	Fluphenazine
	Perphenazine
	Thioproperazine
	Trifluperazine
Piperidine phenothiazine	Thioridazine
Thioxanthene	Flupenthixol Zuclopenthixol

Table 1: First-generation antipsychotics-Chemical Class

A.2.Indications:

Indications for Dopamine Receptor Antagonists
Acute psychotic episodes in schizophrenia and schizoaffective disorder
Maintenance treatment in schizophrenia and schizoaffective disorders
Mania
Depression with psychotic symptoms
Delusional disorder
Borderline personality disorder
Substance-induced psychotic disorder
Delirium and dementia
Mental disorders due to a medical condition
Childhood schizophrenia
Pervasive developmental disorder
Tourette's syndrome
Huntington's disease

Table 2: First-generation antipsychotics-Indications

B. Atypical Antipsychotics:

After more than 40 years of dopamine receptor antagonists with often unavoidable extrapyramidal side effects, a new generation of antipsychotic drugs has become available. These are the Serotonin-Dopamine Antagonists (SDAs), named after their mechanism of action. SDAs are a group of antipsychotics that are comparable to dopamine receptor antagonists in terms of efficacy but differ in terms of structure, receptor affinities, and side effect profiles. These agents now have a much wider use in psychiatry than do the traditional antipsychotics.

B.1. List of Drugs:

Atypical Antipsychotics
Amisulpiride
Aripiprazole
Asenapine
Clozapine
Iloperidone
Lurasidone
Olanzapine
Paliperidone
Quetiapine
Risperidone
Sertindole
Ziprasidone

Table 3: - List of Atypical antipsychotics

B.2.Indications:

Atypical antipsychotics have now become the first choice of agents for treating Schizophrenia and other psychotic disorders, because of lesser side effects and better tolerability. Fifty percent of antipsychotics come from nonschizophrenia indications, such as bipolar disorder (mania, maintenance treatment), psychosis and other behavioral disturbances of dementia, depression (psychotic, bipolar, or treatment resistant), or psychosis in Parkinson's disease. Because of the better side effect profile, they are now used beyond the narrow indication of schizophrenia, in bipolar disorder, depression, autism, behavioral problems, and psychosis in patients with dementia. The decreased risk of extrapyramidal side effects and tardive dyskinesia has created usage beyond the labeled indications for example, for posttraumatic stress disorder (PTSD), aggressive behavior, and adjunctive therapy in treatment resistant depression.

C: Typical Vs Atypical:

All of the SDAs share the following characteristics:

1. Low D_2 receptor blocking effect when compared to DRAs.
2. A reduced risk of extrapyramidal side effects including reduced risk of tardive dyskinesia compared to older typical agents but probably added risk of metabolic syndrome.
3. Improved efficacy against both positive and negative symptoms of Schizophrenia. (NB: controversial)

D. SIDE EFFECTS OF ANTIPSYCHOTICS:

System/Syndrome	Side effects
Dermatological	• Photosensitivity: Usually with Chlorpromazine • Rash • Pruritis • Urticaria & Angioedema • Fixed Drug Eruptions • Skin Discoloration • Psoriasiform reactions

	• Erythema multiforme (Risperidone & Clozapine) • DRESS syndrome (Olanzapine) • Hypersensitivity vasculitis (Clozapine & Haloperidol)
Anticholinergic	• Dry mucous membranes • Blurred vision; acute glaucoma • Constipation • Urinary retention • Sweating • Delayed/retrograde ejaculation
Cardiovascular (anti-alpha 1 adrenergic)	• Orthostatic hypotension • Dizziness • Fainting • Tachycardia
CNS	• Sedation • Confusion • Reduced seizure threshold • Movement disorders (see next table)
Endocrine (due to dopamine blockage which increases Prolactin)	• Weight gain • Increased risk of diabetes mellitus and dyslipidemias. (metabolic syndrome) Men: • Decreased libido • Gynecomastia Women: • Breast engorgement • Lactation • Amenorrhea • Menstrual irregularities • Changes in libido
Ocular	• Lenticular pigmentation • Pigmentary retinopathy (thioridazine >800 mg/day)
Hypersensitivity reactions	• Liver problems • Blood dyscrasias (e.g. Agranulocytosis with Clozapine) • Skin rashes-indurations • Neuroleptic malignant syndrome

Table 4: Side effects of Antipsychotics

D.1. EXTRAPYRAMIDAL SIDE EFFECTS:

	Dystonia	Akathisia	Pseudoparkinsonism	Dyskinesia
Acute or Tardive	Both	Both	Acute	Tardive
Risk Group	Acute: young Asian males	Acute: elderly Females	Elderly Females	Elderly Females
Presentation	Sustained abnormal posture: torsions, twisting, contraction of muscle groups, muscle spasms (e.g.oculogyric crisis, laryngospasm, torticollis)	Subjective and Objective motor restlessness	Tremor Rigidity/cogwheeling Akinesia Postural instability (decreased/absent armswing, stooped posture, shuffling gait, decreased stride, difficulty pivoting)	Purposeless constant movements usually Involving facial and mouth musculature, or less commonly, the limbs.
Onset	Acute: within 5d Tardive: > 90 d	Acute: within 10d Tardive: > 90d	Acute: within 30d	Tardive: > 90d
Treatment	Acute: lorazepam or benztropine	Acute: lorazepam. propranolol or diphenhydramine: reduce or change neuroleptic to lower potency	Acute: benztropine, benzodiazepine: reduce or change neuroleptic to lower potency	Tardive no good treatment: may try clozapine: discontinue drug or reduce dose

Table 5: Extrapyramidal side effects of Antipsychotics

2. Antidepressants:

Depression is widely recognized as a major public health problem around the world. Use of antidepressants to alleviate this common ailment has gradually increased in the past decade and knowledge of currently available antidepressants is of paramount importance for the treating physician.

2.A: Classification:

Pharmacological Class	Drugs
Cyclic Antidepressants	
• Selective Serotonin Reuptake Inhibitors (SSRI)	• Citalopram, Escitalopram, Fluoxetine, Paroxetine, Fluvoxamine, Sertraline
• Selective Serotonin-Norepinephrine Reuptake Inhibitor (SNRI)	• Venlafaxine, Desvenlafaxine, Duloxetine
• Norepinephrine Dopamine Reuptake Inhibitor (NDRI)	• Bupropion
• Serotonin-2 Antagonists/ Serotonin Reuptake Inhibitors	• Trazadone
• Noradrenergic/Specific Serotonergic Agent (NaSSA)	• Mirtazapine
• Nonselective Cyclic Agents/ Tricyclic Antidepressants (Mixed Reuptake Inhibitor/ Receptor blockers)	• Desipramine, Amitriptyline, Nortriptyline, Imipramine, Clomipramine
Monoamine Oxidase Inhibitors	
• Reversible MAO-A Inhibitor (RIMA)	• Moclobemide
• Irreversible MAO A-B Inhibitors (MAOIs)	• Phenelzine
• Monoamine Oxidase B Inhibitor	• Selegiline

Table 6: Classification of Antidepressants

2.B: Selective Serotonin Reuptake Inhibitors (SSRI

SSRI	Licensed Indication	Licensed Dose	Main adverse Effects
Escitalopram	• Depression • Panic disorder ± Agoraphobia • Social anxiety • Generalized Anxiety Disorder • OCD	10-20 mg/day	Nausea, vomiting, dyspepsia, abdominal pain, diarrhoea, rash, sweating, agitation, anxiety, headache, insomnia, tremor, sexual dysfunction, hyponatraemia, cutaneous bleeding disorders, Acneiform rashes, Psoriasiform reaction and discontinuation symptoms may occur.
Fluoxetine	• Depression • OCD • Bulimia nervosa	20-60mg/day	As above but insomnia and agitation possibly more common.
Fluvoxamine	• Depression • OCD	100-300 mg/day	As for Escitalopram but nausea more common.

Paroxetine	• Depression • Panic disorder ± Agoraphobia • Social anxiety • Generalized Anxiety Disorder • OCD • PTSD	20-50 mg/day	As for Escitalopram but antimuscarinic effects and sedation more common.
Sertraline	• Same as above	50-200 mg/day	As for Escitalopram.

Table 7: SSRIs

2.C. Selective Serotonin-Norepinephrine Reuptake Inhibitor (SNRI)

SNRI	Licensed Indication	Licensed Dose	Main adverse Effects
Duloxetine	• Depression • Generalized Anxiety Disorder • Myalgia and musculoskeletal pain disorders	60-120 mg/day	Nausea, insomnia, headache, dizziness, dry mouth, somnolence, constipation, anorexia. Very small increase in heart rate and BP.
Venlafaxine	• Depression • Panic disorder ± Agoraphobia • Social anxiety • Generalized Anxiety Disorder	75-375 mg/day	Nausea, insomnia, headache, dizziness, dry mouth, somnolence, constipation, anorexia and sexual dysfunction. Psoriasiform reaction Elevation of BP at higher doses. Discontinuation symptoms common- Reduced with XL preparations.

Table 8: SNRIs

2.D. Tricyclic Antidepressants:

SNRI	Licensed Indication	Licensed Dose	Main adverse Effects
Amitriptyline	• Depression • Nocturnal enuresis in children	50-200 mg/day	Sedation, postural hypotension, arrhythmia, dry mouth, blurred vision, constipation, urinary retention, skin discoloration, photosensitivity, rashes.
Clomipramine	• Depression • OCD • Adjunctive treatment of cataplexy associated with narcolepsy	30-250 mg/day	As for Amitriptyline, but more toxic in overdose
Dothiepin (Dosulepin)	• Depression	75-225 mg/day	As for Amitriptyline.
Imipramine	• Depression • Nocturnal enuresis in children	50-200 mg/day	As for Amitriptyline, but less sedative.

Table 9: TCAs

2.E. Other Antidepressants:

Class/Drug	Licensed Indication	Licensed Dose	Main adverse Effects
Noradrenergic/Specific Serotonergic Agent (NaSSA) Mirtazapine	• Depression	15-45 mg/day	Increased appetite, weight gain, drowsiness, oedema, dizziness, headache, occasional blood dyscrasia.
Norepinephrine Dopamine Reuptake Inhibitor (NDRI) Bupropion	• Depression • Smoking cessation	150-450 mg/day	Insomnia, nightmares, agitation, exacerbation of psychotic symptoms, occasional risk of seizures

Table 10: Other antidepressants.

3. Antianxiety (Anxiolytic, Minor tranquilizers):

Anxiety is a normal emotion that is experienced by everyone at some time. Symptoms can be psychological, physical, or a mixture of both. Intervention is required when symptoms become disabling. There are several disorders within the overall spectrum of anxiety disorders, each with its own characteristic symptoms.

3.A. Classification:

Chemical Class	Agent
ANTIDEPRESSANTS (see previous section)	
SSRI (First line)	Eg. Escitalopram, Sertraline, Paroxetine, Fluoxetine
SNRI (First line)	Eg. Venlafaxine, Duloxetine
TCA (Second line)	Eg. Amitriptyline, Clomipramine
NaSSA (Second line)	Eg. Mirtazapine
SARI (Second line)	Eg. Trazodone
BENZODIAZEPINES (First line and Adjuvant)	
Long acting	Diazepam
	Chlordiazepoxide
	Clonazepam
	Flurazepam
	Nitrazepam
Intermediate acting	Lorazepam
	Oxazepam
	Temazepam
Short acting	Alprazolam
	Midazolam
	Triazolam
AZASPIRONE	
First line for Generalized Anxiety Disorder (GAD) only	Buspirone
ANTIHISTAMINE	
Used primarily for pruritus. Can be useful in GAD	Hydroxyzine

3.B. Indications:

1. Anxiety Spectrum Disorders: GAD, Panic disorder ± Agoraphobia, Social anxiety disorder, Post traumatic stress disorder, Obsessive Compulsive disorder.
2. Insomnia.
3. Perioperative sedation.

4. Seizure disorders.
5. Skeletal muscle spasticity.
6. Alcohol withdrawal.
7. Akathisia.
8. Agitation.
9. Catatonia (Lorazepam).
10. Myoclonus, restless leg syndrome, Tourettes's syndrome (Clonazepam).

3.C. Adverse effects of Benzodiazepines:

Headaches, confusion, ataxia, dysarthria, blurred vision, gastrointestinal disturbances, jaundice and paradoxical excitement are all possible side effects. A high incidence of reversible psychiatric side effects, specifically loss of memory and depression, led to the withdrawal of triazolam. The use of benzodiazepines has been associated with at least a 50% increase in the risk of hip fracture in the elderly. Benzodiazepines can cause anterograde amnesia and can adversely affect driving performance. Benzodiazepines can also cause disinhibition; this seems to be more common with short-acting drugs.

Respiratory depression is rare with oral therapy but is possible when the IV route is used. A specific benzodiazepine antagonist, flumazenil, is available.

IV injections can be painful and lead to thrombophlebitis, because of the low water solubility of benzodiazepines, and therefore it is necessary to use solvents in the preparation of injectable forms.

3.D. Benzodiazepine Withdrawal symptoms:

Benzodiazepines are widely acknowledged as addictive and withdrawal symptoms can occur after 4–6 weeks of continuous

use. At least a third of long-term users experience problems on dosage reduction or withdrawal. Short-acting drugs are associated with more problems on withdrawal than longer-acting drugs such as diazepam.

Physical	Psychological
• Stiffness	• Anxiety/insomnia
• Weakness	• Nightmares
• GI disturbance	• Depersonalization
• Paraesthesia	• Decreased memory and concentration
• Flu-like symptoms	• Delusions and hallucinations

Table 11: BZD withdrawal symptoms

4. Mood stabilizers:

The mood stabilizers are diverse group of drugs used for the treatment of recurrent affective illness. These drugs are effective in acute mania and generally less effective in acute depression and they act to increase the time to depression or mania recurrence.

4.A. Following Agents Will be Discussed:

1. Lithium carbonate
2. Valproate
3. Carbamazepine
4. Other Mood stabilizers: Lamotrigine, Topiramate.
5. Atypical Antipsychotics as Mood stabilizers.

4.A.1: Lithium carbonate:

LITHIUM

Indications	Mania, hypomania, prophylaxis of bipolar disorder and recurrent depressionaffective. Reduces aggression and suicidality.
Pre-lithium work up	e-GFR and TFTs. ECG recommended in patients who have risk factors for,or existing cardiovascular disease.Baseline measure of weight desirable.
Prescribing	Start at 400 mg at night (200 mg in the elderly). Plasma level after 7 days, then7 days after every dose change until the desired level is reached (0.4 mmol/Lmay be effective in unipolar depression, 0.6–1.0 mmol/L in bipolar illness,slightly higher levels in difficult to treat mania)Blood should be taken 12 hours after the last dose
Side effects	Mild GI upset, fine tremor, polyuria, polydipsia, ankle oedema, weight gain, risk of hypo thyroidism, interstitial nephritis (rare), teratogenicity. **Dermatological: exacerbation of psoriasis, acneiform lesions, mucosal ulcerations, hidradenitis suppurativa, follicular hyperkeratosis, exacerbation of Darier's disease etc**
Monitoring	Plasma lithium every 3 months. e-GFR and TFTs every 6 months. Morefrequent tests may be required in those who are prescribed interactingdrugs. Weight (or BMI) should also be monitored
Stopping	Reduce slowly over at least 1 monthAvoid incremental reductions in plasma levels of >0.2 mmol/L

4.A.2: Valproate:

VALPROATE	
Indications	Mania, hypomania, bipolar depression (with an antidepressant) andprophylaxis of bipolar affective disorder. May reduce aggression in a rangeof psychiatric disorders (data weak)
Pre-Valproate work up	Complete blood count and LFTs. Baseline measure of weight desirable
Prescribing	Titrate dose upwards against response and side effects. Loading doses canbe used and are generally well tolerated. Note that CR sodium valproatecan be given once daily. All other formulations must beadministered at least twice dailyPlasma levels can be used to assure adequate dosing and treatmentcompliance. Blood should be taken immediately before the next dose
Side effects	Gastric irritation, hyperammonemia, nausea, dose-related tremor, hair loss, peripheral oedema, thrombocytopenia (rare), teratogenicity.**Dermatological: Alopecia, acneiform lesions, Erythema multiforme, Stevens-Johnson syndrome and toxic epidermal necrolysis etc**
Monitoring	As a minimum, complete blood count and LFTs after 6 monthsWeight (or BMI) should also be monitored
Stopping	Reduce slowly over at least 1 month

4.A.3: Carbamazepine:

CARBAMAZEPINE	
Indications	Mania (not first line), bipolar depression (evidence weak), unipolar depression (evidence weak), and prophylaxis of bipolar disorder (third line after antipsychotics andvalproate). Alcohol withdrawal (may be poorly tolerated)
Pre-Carbamaze pine work up	Urea & Electrolytes, FBS and LFTs. Baseline measure of weight desirable
Prescribing	Titrate dose upwards against response and side effects; start with 100–200 mg bd andaim for 400 mg bd (some patients will require higher doses)Note that the modified-release formulation can be given once to twice daily,is associated with less severe fluctuations in serum levels and is generally better tolerated Plasma levels can be used to assure adequate dosing and treatment compliance. Blood should be taken immediately before the next dose. Carbamazepine induces its ownmeta bolism; serum levels (if used) should be re-checked a month after an increase in dose
Side effects	Dizziness, diplopia, drowsiness, ataxia, nausea, headache, oedema, hyponatremia, generalized erythematous rash, aplastic anemia (rare), teratogenicity. **Dermatological:** Alopecia, DRESS syndrome, acneiform lesions, Hypersensitivity vasculitis, Erythema multiforme, Stevens-Johnson syndrome and toxic epidermal necrolysis etc

Monitoring	As a minimum, Urea &Electrolytes, Complete blood count and LFTs after 6 monthsWeight (or BMI) should also be monitored
Stopping	Reduce slowly over at least 1 month

4.A.4: Other Mood stabilizers: Lamotrigine, Topiramate, Gabapentin:

The drugs mentioned above are also used as mood stabilizing agents. Lamotrigine is approved for use in bipolar depression. Lamotrigine is associated with various hypersensitive skin eruptions.

4.A.5: Atypical Antipsychotics as Mood Stabilizers :

Individual antipsychotics variously possess sedative, anxiolytic, antimanic and antidepressant properties. Some antipsychotics (quetiapine and olanzapine) show all of these activities. Antipsychotics are used in bipolar disorder to treat all aspects of the condition. Among atypical antipsychotics, olanzapine, risperidone, quetiapine and aripiprazole have been most robustly used.

The dermatologist must be aware of the mechanisms, indications, and side effects of the most used psychotropic agents so that they can provide the best management strategies in psychodermatoses.

For further reading :

1. Kaplan & Sadock's Comprehensive Text Book of Psychiatry
2. New Oxford Text Book of Psychiatry
3. Introduction to Psychology: Morgan King Weiss
4. The Maudsley-Prescribing Guidelines in Psychiatry

Chapter-15

Dermatological Adverse Effects of Psychotropic Medication

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Background

The prescriptions for psychotropic medications have shown an upward trend in the recent years due to a multitude of factors, including enhanced treatment-seeking.Consequently, the psychotropic drug-induced adverse reactions are also more likely to present to clinical settings. Incidence of adverse cutaneous drug reactions (ACDRs) is low (0.1%), but it has been estimated that between 2-5% of patients on psychotropic medications may develop dermatological reactions at some time. The dermatologist is likely to be consulted in such scenarios by patients or psychiatrists' referrals.

Certain issues and challenges posed by such scenarios include:

a) **Clinical aspects**: An acutely psychotic patient may be unable to report about the adverse effect reliably.At times, patients of factitious disorder with skin changes or with trichotillomania may hide or deny the self-afflicted nature.

b) **Diagnostic aspects** (independent vs drug induced or exacerbated)

c) **Identification of specific causative agent** (especially with history of simultaneous exposure to multiple medications)

d) **Management and liaison services** (regarding the dose reduction, choice of alternate psychotropic drug, re-challenge,etc)

The chapter covers these issues and considerations in diagnosis and management, and briefly discusses the ACDRs associated with psychiatric medication which are of relevance for a dermatologist.

Risk Factors

The precise mechanism of dermatological side effects caused by psychotropic drugs is unclear. The more serious cutaneous reactions attributed to psychotropic medications have the features consistent with Type B drug reactions (idiosyncratic, unpredictable). Clinically, there may be some overlap with Type A reactions(dose dependent, predictable), as seen with lamotrigine-induced cutaneous reactions.

It is often not possible to predict the psychotropic drug induced adverse cutaneous reactions with certainty. Some of common risk factors for ACDRs associated with psychiatric drugs are asbelow:-

- **Gender**: Females have a greater risk of having ACDRs as compared to males, especially seen with Mood Stabilizers and Selective Serotonin Reuptake Inhibitors (SSRIs).
- **Advanced age**: Slower metabolism resulting in reducedhepatic and renal clearance coupled with multiple morbidities and multiple prescription medications may act as predisposition.
- **HLA subtype**: Patients carrying allele for certain HLA subtypes are more prone to develop ACDRs, particularly in case of mood stabilizers. For example, HLA-B 1502 in Asian/ Indian population makes the person 100 times more susceptible to develop epidermal necrolysis.

- **Ethnicity**: African Americans have been noted to be more prone to develop ACDRs, probably due to inherited variability in enzyme expression.
- **Type or class of medications:** Although all psychotropic medication classes have been associated with ACDRs, however certain medication classes are more likely to be associated with severe ACDRs.

A large-scale multi centre surveillance data from over two lakh psychiatric admissions(between 1995-2005) reportedas follows: -

- o **Mood stabilizers** (notably, those which are anti-epileptics/ anticonvulsants) have highest and statistically significant ACDR risk, with a pooled incidence of 0.23%. Among the mood stabilizers, Lamotrigine (0.62%) and Carbamazepine (0.32%) had the highest incidence followed by Oxcarbazepine (0.21%) and Valproate (0.06%). Lithium had the lowest propensity (0.01%).
- o **Antidepressants** were the second most common group for clinically significant ACDRs. The rate of ACDRs associated with tricyclic antidepressants was 0.07% and with SSRIs (selective serotonin reuptake inhibitors) was 0.05%. Among SSRIs, it was 0.15% for escitalopram.

- **Higherdosageor rapid dose escalation**. For example, the risk of lamotrigine induced rash increases significantly with a rapid escalation of dosage over a short period of time.

Type of Adverse Cutaneous Drug Reactions

The Adverse Cutaneous Drug Reactions (ACDR) can be seen with almost all the classes of commonly prescribed psychotropic medications (viz. mood stabilizers, antipsychotic drugs, antidepressant drugs and anxiolytics). These ACDRs can be broadly divided into three groups:

A. Common, mild cutaneous adverse reactions (e.g. Urticaria)

B. Rare, life-threatening skin reactions (e.g. Steven- Johnson syndrome)

C. Exacerbation of the primary skin conditions (e.g. psoriasis with the use of lithium)

A.Common adverse cutaneous reactions to psychotropic medications

(a) Pruritus: It is often primary adverse effect of nearly all the psychotropic medications, and may also occur secondary to other ACDRs. The mechanism of the psychotropic drug-induced pruritus is still not clear. It has been postulated that pruritis can be due to the increased serotonergic system hyperactivity in the dermal and epidermo-dermal junction area, rather than hypersensitivity reaction to the drug itself. For example, the antidepressants act by inhibiting the serotonin reuptake from the synaptic vesicles. On the other hand, paradoxically, many antidepressants (such as Sertraline, Fluoxetine, Paroxetine,Mirtazapine) have also been used for treatment for conditions with chronic pruritus.

(b) Urticaria: It is second most common adverse cutaneous reaction which usually starts within minutes to hours of starting the drug and is characterized by wheals with a migratory pattern. It may or may not be associated with angioedema. Although it can be associated with all the psychotropic medications, few drugs have shown relatively less propensity for this side effect(including Lithium carbonate, Valproate, Quetiapine, Aripiprazole and Haloperidol).

(c) Exanthematous rashes: It usually starts within 3 to 14 days of starting the drug. It is characterized by macular and maculopapular skin lesions, mucosal lesions *One should be very careful with exanthematous eruptions especially when*

the patient is on mood stabilizers, as it can be initial symptom of more severe life-threatening reactions. Amongst the mood stabilizers, Carbamazepine and Lamotrigine have the highest reported incidence of this side effect and if it occurs with any of these agents, Valproate can be a safer alternative.

(d) Fixed drug eruptions: The lesion can appear within hours of taking the drug and are usually round or oval edematous plaques which can affect any part of skin or mucous membrane, and tend to recur at the same site with each drug exposure. It may be preceded or accompanied with itching, and bullae might be present in more severe cases. Common offending agents for fixed drug eruptions are Carbamazepine, Lithium carbonate, Olanzapine, Quetiapine, Risperidone and Haloperidol.

(e) Photosensitivity: These are the result of interaction of the drug with UV radiation (UV-A>UV-B), and is limited to body areas exposed to light. It can be a phototoxic(direct damage to the skin, dose dependent, resembles a sunburn) or photoallergic (immune mediated) reaction. Although Chlorpromazine (which is the oldest antipsychotic, first one to be marketed) has been traditionally associated with photosensitivity, available literature shows that most of the classes of psychotropic drugs can cause photosensitivity. The drugs with less propensity to cause this side effects are Venlafaxine, Bupropion, Mirtazapine, Lithium carbonate and Aripiprazole. Patients should be advised to minimize sun exposure and use of sunscreen.

(f) Pigmentation: It is generally associated with long-term medication use and can involve any part of skin and its appendages. For example, Chlorpromazine can cause bluish-gray pigmentation in skin and conjunctivae. The lesions can be either hypomelanotic or hypermelanotic or have a mixed

pattern. In most of the cases, the lesion fades with discontinuation of medication.

(g) Alopecia: Alopecia is usually diffuse, non-scarring with localized or generalized hair loss from scalp. It is generally temporary and hair usually grows back within 2-5 months of the discontinuation of medication. More common psychotropic medications associated with alopecia (in over 5%) are Valproate sodium and lithium carbonate.Zinc and Biotin supplements are reported to help with drug induced alopecia. Patients experiencing hair loss should be prescribed the Zinc and Biotin supplements, especially if it is not feasible to change the medication. Patients may also be educated about the reversible nature of hair loss. Change to alternate drug need to be discussed with concerned psychiatrist, and may or may not be feasible, depending on severity of alopecia and severity and course of psychiatric illness.

B. Severe, life-threatening adverse cutaneous reactions to psychotropic medications

(a) Erythema multiforme: It commonly occurs within days of drug initiation. It is characterized by target lesions. The typical lesions are acute, polymorphous, clearly demarcated and symmetrically distributed on dorsal surface extremities and palmoplantar surfaces. The condition can progress to more severe reactions like Steve-Johnson syndrome and toxic epidermal necrolysis. Most common psychotropic agentsassociated with Erythema multiforme are Valproate, Carbamazepine, Lamotrigine and Oxcarbazepine. It is seen only rarely with other groups of psychotropic medications.

(b) Steven-Johnson Syndrome (SJS) and Toxic Epidermal Necrolysis (TEN): Both these conditions share the pathogenesis and are differentiated on the basis of involvement of body surface area; < 10% is considered as

SJS and > 30% is classified as TEN. Along with cutaneous reactions there are often systemic signs, such as fever and flu-like symptoms. These conditions have high mortality rates (5%-30%) depending upon the body surface area involved and the offending drug should never be restarted. Lamotrigine and carbamazepine have a high risk for development of these conditions and Lithium carbonate is a safer alternative with lowest risk amongst the mood stabilizers. These dermatological reactions are rarely seen with other groups of psychotropic medications.

(c) Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS syndrome): It is a potential life-threatening syndromewhich is characterized by a symptom triad of fever, rash and internal organ involvement (most commonly liver) in addition to several other findings such as lymphadenopathy and hematological abnormalities. A delayed onset of symptoms 2-6 weeks after the initiation of causative drug is a feature of DRESS. It is most frequently reported with mood stabilizers (Carbamazepine carries the highest risk whereas lithium carbonate has less risk) and is rarely seen with other group of medications. The treating physician should be extremely vigilant. If a patient presents with constellation of signs and symptoms indicative of DRESS syndrome, a complete blood count and liver function tests should be ordered along with immediate withdrawal of the offending agent.

(d) Exfoliative dermatitis: It manifests as diffuse erythema and scaling of skin and often involves more than 90% of body surface area. It is associated with good prognosis if the offending agent is withdrawn immediately. Most notably the Tricyclic Antidepressants (older class of antidepressants) have been shown to have highest risk of this condition and other psychotropics are rarely implicated[1, 2].

(e) Drug hypersensitivity vasculitis: It often starts in few weeks after starting the medication and results in inflammation and necrosis of blood vessel walls with palpable purpura. The lower third of legs and ankles are most commonly affected areas. Although rarely seen with psychotropic medications, certain medications like Clozapine, Trazodone, Carbamazepine, Lithium, Diazepam and Chlordiazepoxide have been associated with this condition.

C. Exacerbation of the primary skinconditions

Psychotropic drugs may precipitate or exacerbate the primary dermatological disorders (acne, psoriasis, seborrheic dermatitis, hyperhidrosis and porphyria).

Acne is commonly associated with use of Lithium carbonate and antidepressant drug classes. Lithium carbonate is known to induce or exacerbate *psoriasis* and has been associated with psoriasiform drug eruptions. It may occur within few months or years of use and could be resistant to conventional treatments for psoriasis, often requiring lithium discontinuation. Seborrheic dermatitis (typically seen in scalp and other regions with sebaceous glands) is seen in patients receiving long term phenothiazine medications and also reported with certain antidepressants and mood stabilizers. Hyperhidrosis has been reported with antidepressants, antipsychotics as well as mood stabilizers. Porphyria may be exacerbated by anticonvulsant mood stabilizing drugs such as carbamazepine, valproate and barbiturates.

Diagnostic Aspects

The cutaneous reaction in a given patient with psychiatric illness may often present diagnostic challenge as to whether it is drug induced or an independent condition. Further, there are instances in which psychiatric patients may have dermatological symptoms which may be independent of drug exposure (such as

plucking hair and bald patches in trichotillomania or poor hygiene in psychosis predisposing to certain dermatological conditions). Diagnosis may be further complicated due to the unpredictability, polymorphous presentation and multifactorial etiology of cutaneous reactions in general.

The diagnosis of drug induced ACDRs is largely dependent on :

- Careful, thorough history from patient, family and treatment records
- Time-line of exposure and temporal association
- Past history of drug exposure and family history of drug induced cutaneous reactions
- Physical examination of dermatological reaction
- Relying on the clinical criteria (as discussed below)
- Focused review of literature (pertaining to the drug notoriety and likelihood of ACDRs)
- Laboratory investigations: These are often of a limited utility and no standardized tests are available with 100% negative predictive value. Patch tests may be used with variable sensitivity and specificity if there is history of drug exposure to several classes of medications. Certain investigations may be considered in cases with severe, life threatening reactions e.g. HLA screening, LTT (lymphocyte transformation test) and ELISPOT (Enzyme linked immunospot assay). The histopathological examination of the skin biopsies might not be useful as there is no particular finding which is specific to drug eruptions.

While attributing the cutaneous drug reaction to a drug, one may note the likelihood of association—whether it is possible, probable, definite, or questionable.

Kramer proposed six variables which should be taken into account while assessing any adverse reaction with a drug:

(i) Previous experience with the drug in the general population

(ii) Possible different etiology

*(iii) Timing of initiation of drug and appearance of lesio*n

(iv) Drug dose

(v) Effects after discontinuation of drug

(vi) Reaction to re-challenge with the drug: to confirm a drug induced ACDR, but it is not advisablein view of the safety and ethical concerns.

Management Considerations

The management strategies may vary depending on the condition, and may include using antihistaminic for pruritus, topical steroids for mild to moderate rashes and systemic steroids for more severe exanthematous reactions. For more severe conditions like SJS or TEN hospitalization with oral/IV steroids or IV immunoglobulins might be required.

Some of the key considerations are as follows:

- **Pharmacokinetics of the offending drug (long half-life)**: The pharmacokinetics of the probable psychotropic drug should be factored in, during the management. For example, Fluoxetine has a metabolite with a long half-life (2 weeks). Therefore, the cutaneous reactions may continue even after drug discontinuation till the wash out period is over. Similarly, while collecting history of drug exposure, typically all drug exposures (whether continuous or intermittent, or recently discontinued), especially in the previous three months, should be closely scrutinized.
- **Choice between drug discontinuation, dose reduction or drug substitution:** In the management of severe, life

threatening or potentially alarming ACDRs, the most prudent step is to discontinue the offending agent. In a substantial proportion of the cases, this, in itself results in the resolution of the cutaneous reaction. For benign, milder reactions, the risk versus benefit analysis should be done. The severity of the skin reaction must be weighed against the severity of the primary psychiatric illness for which the drug treatment has been initiated. Dose reduction to the minimum effective dosage may take care of some types of cutaneous drug reactions. Drug substitution may be considered only after a review of illness and treatment history by a psychiatrist.

- **Liaison with a psychiatrist**: It is very important that the treating dermatologist communicates with the psychiatrist, who may opine on the risks, benefits and feasibility of changes in psychotropic drug regimen. There is also a risk of worsening of the psychiatric disorder and its complications, and therefore, a closer collaborative care model shall maximize the benefits to patients.Drug dose reduction must be advised to the patient after discussionwith the psychiatrist (unless there is a potentially severe reaction warranting the immediate stopping of medication). Further, dose reductions are often done by a gradual taper, unless there is a potentially serious cutaneous reaction.
- **Monitoring of the patient's psychiatric condition**: Patient must regularly visit a psychiatrist for follow-ups for any relapse or worsening of symptoms. Further, if the risk of the recurrence of the patient's illness is deemed to be high (e.g. history of rapid mood cycling or history of prominent suicidality), then the medication changes can be made in a controlled, safe environment after a psychiatric admission.
- **Re-challenge and Cross-reactivity:** Another important aspect which is often enquired from a dermatologist is

whether to re-challenge the patient on same drug, particularly if it was working well to control psychiatric symptoms. In general, with serious ACDRs, it is prudent not to re-challenge the patient and to initiate the patient on another psychotropic drug. Care has to be taken for the fact that a large proportion of ACDRs are immunological in nature and cross-reactions between similar molecules are highly likely. For example, some of the SSRIs appears to have immunological cross-reactivity, notably fluoxetine, fluvoxamine, paroxetine and sertraline. Therefore, it is always advisable to use a non-SSRI in such patients.

- **Prevention of ACDRs?** The prevention of ADCR is being focused with advances in precision medicine. For example, the U.S FDA has made change in product labeling for carbamazepine to recommend genotyping for HLA B 1502 specifically for individuals with Asian ancestry before starting carbamazepine. If found positive, it should be started only if proposed benefits clearly exceed the risks for serious reactions.

Public Health and Patient Safety Concerns

At a population level, such reactions may be of high priority and need to be reportedespecially for newer medications. In the past, potentially serious reactions have led to modifications in prescription guidelines. For example, Lamotrigine must be started at a low dose and very gradually increased over a period of several weeks to months to build up to its optimum dosage.

Take-Home Points

To conclude,the key points are asbelow: -

- Psychotropic medications are commonly prescribed with an increasing trend
- Between 2-5% of individuals on psychotropic medication may develop ACDRs

- All the main psychotropic medication groups (mood stabilizers, antidepressants, antipsychotics, sedatives/ hypnotics) are associated with ACDRs
- Most of the reactions are benign and easily manageable.
- Severe, life threatening dermatological reactions may occur (notably with anticonvulsant mood stabilizers)
- Diagnostic issues may arise, which may be resolved by detailed history, examination and use of clinical criteria
- Need for a closer collaboration between dermatologists and psychiatrists, for enhancing the patient care, teaching, training and research at the interface of psychotropic drugs and dermatological reactions.

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Chapter-16

Drug Induced Psychiatric Conditions

Shubhangi S. Dere

Increased understanding of bio-psycho-social approaches in various dermatological conditions necessitates liaison among primary care physicians, psychiatrists, and dermatologists. There is a need for psychiatric consultation in general, as psychological factors may be of particular concern in chronic intractable dermatologic conditions, such as eczema, prurigo, and psoriasis etc.

All the more, various treatment agents used in management for chronic dermatological conditions can have psychiatric side effects, which need to be identified and addressed in time. Following text reviews the aspects of drug induced psychiatric conditions.

Isotretinoin (13-*cis*-retinoic acid (RA):

RA is a medication used for the treatment of acne. The dermatology literature has frequently emphasized the potential for positive behavioural effects with isotretinoin because of the effectiveness of this drug in clearing acne.Although acne is associated with a decrease in self-esteem, anxiety and unhappiness about appearance,studies have not been able to demonstrate a correlation between symptoms of clinical depression and objective severity of acne, or an improvement in clinical depression with treatment.

Further, the drug has been associated with various psychiatric side effects. There have been reports of depression, suicide, suicidal ideations and suicidal attempts, aggressive reaction, emotional liability, irritability, amnesia, abnormal thinking, aggravated depression, and manic reaction.[1]

Although, many investigators have not found a causal connection, and most of the published case reports do not meet the established criteria for establishing causality, still, the fact that the development of depression is temporally related to the initiation of treatment with isotretinoin, increased prevalence of depression with higher dosages, remission with discontinuation of treatment and re-occurrence of symptoms after restarting of the drug supports the causal role that isotretinoin plays in the development of depression. Isotretinoin associated depression is observed to develop early after 1-2 months of treatment in some cases or at later stages of treatment, around 2-4 months after drug commencement. This suggests that the biological mechanism of drug induced depression may not be via immediate influence but through a secondary system or possibly alteration of neuroplasticity or metabolic process known to be influenced by RA.

Etiopathogenesis of RA induced depression:

The all-*trans* RA is an endogenous regulator of gene expression acting via specific receptors that function as ligand (in this case RA) activated transcription factors.Brain regions regulated by, and which may be affected by RA, so as to potentially promote depression, include the striatum, hippocampus and frontal cortex.

One particular RA regulated gene in the hypothalamus that may provide a link between RA and depression is corticotrophin-releasing hormone (CRH) which is a key regulatory factor in the HPA axis which may contribute to HPA axis hyperactivity in depression.

Isotretinoin administration in human subjects was shown to be associated with increased concentrations of homocysteine,as well as decrease in 5-methyl-tetrahydrofolate,providing a potential metabolic mechanism by which isotretinoin may promote depression. The occurrence of headache with isotretinoin usage has been linked to depressionsuggesting that patients who show a CNS side effect such as headache may also be more susceptible to isotretinoin-induced depression.

Corticosteroids:

Steroids areroutinely prescribed for a variety of allergic and immunological illnesses and are most often associated with psychiatric symptoms, which include cognitive impairment, mood disorders, depression, delirium, aggression and psychosis. Several serious psychiatric syndromes can be caused by corticosteroids: substance-induced mood disorders (with depressive, manic and mixed features), substance-induced psychotic disorders and delirium. While certain clinical groups may be at greater risk of corticosteroid-induced adverse psychiatric effects, corticosteroid-induced psychiatric toxicity is remarkably unpredictable. Psychiatric symptoms usually occur within the first two weeks of corticosteroid therapy and seem to be dose related. Treatment with lithium or antipsychotics may be helpful. Physicians should carefully monitor patients for psychiatric and cognitive side effects of corticosteroid use.[2]

The pathophysiology of the steroid induced psychosis remains unclear. However, effects of steroid on the dopaminergic, cholinergic and serotonergic pathways can play important role in causation of psychiatric symptoms. The psychiatric symptoms typically appear within 1–2 weeks after starting high-dose corticosteroid steroid treatment and the most common serious adverse event reported is hypomania or mania, though various forms of psychotic syndromes, taken together, are even more

common. Hypo-albuminemia appears to be a risk factor, along with co-administration of drugs that may slow the metabolism of the corticosteroid, for example, P450 (CYP) 3A4 inhibitors. Although steroid tapering or discontinuation can help to resolve these side effects, psychotropic medications are often required, either because of the inability to discontinue the steroid treatment or the severity of the psychiatric symptoms.

Acyclovir:

It is a commonly used antiviral agent with wide range of drug induced psychiatric symptoms. Psychiatric side-effects associated with acyclovir therapy are very rare in the medical literature. Available research reports common side effects like hallucinations, psychosis, confusion, aggressive behaviour and agitation which may be more marked in older adults and those with renal impairment. Prevalence of acyclovir induced depression and insomnia is not known. The postmarketing reports of acyclovir highlights occurrence of aggressive behaviour. There are case reports available which emphasize the onset of depression due to acyclovir which resolved following discontinuation of acyclovir and treatment with psychotropic agents.[3]

Interferon alfa:

IFN-alfa are used for treatment of various cancers (leukemia, melanoma, AIDS-related Kaposi sarcoma), and viral infections (e.g., chronic hepatitis B, hepatitis C, condyloma acuminata). Unfortunately, IFN frequently induces depression and has led to compromised tolerability with lowering of the dose of IFN and even discontinuation of treatment. Interferon-induced depression ranges from 0 to 50%. Thus, it is imperative to diagnose IFN-induced depression early, evaluate whether this depression is associated with IFN-induced anemia or thyroid dysfunction, which can be corrected, and if necessary treat with antidepressants. IFN-induced depression is highly responsive to antidepressants with

benefits occurring at relatively low doses and within a few weeks. If IFN induces a depression in a patient with a bipolar disorder history, antidepressant treatment must include a mood stabilizer. In the case of vulnerable patients (e.g., those who have significant depressive symptoms prior to IFN or who have had an IFN-induced depression in the past) prophylactic antidepressant treatment appears to decrease the likelihood of having an IFN-induced depression.

Although the treatment with interferon-alpha is contraindicated in patients with major depression (National Institutes of Health), but a considerable number of neuropsychiatric side effects is associated with it which includes personality changes, impaired cognitive, mania, and psychosis. In the limited literature, reports of interferon-alpha-induced psychotic disorder exist. Patients being treated with IFN-alpha can be expected to experience such psychiatric side-effects after few weeks of starting the treatment and disappear after discontinuation of the drug. In addition, certain patients are considered to be at greater risk of developing neuropsychiatric side-effects. Individuals meeting the following criteria are particularly vulnerable: over 40 years of age; having central nervous system abnormalities; a previous neurological or psychiatric history; a past familial psychiatric history; use of narcotics or having alcohol or substance use disorders; being HIV-positive; co-administration of other cytokines and receiving high doses of IFN-alpha (> 6 million units). [4]

PUVA therapy:

Phototherapy with PUVA is used for treatment of various skin conditions like vitiligo, psoriasis. Psychiatric side effects including depression secondary to skin discoloration have been reported. There are two cases of suicides reported.PUVA is associated withless frequent side effects which include depression, dizziness, and headaches.[5]

Immunomodulators:

This category of drugs includes tacrolimus, cyclosporine, methotrexate, and mycophenolate mofetil. These agents are used for the treatment of various auto-inflammatory skin conditions. Neurotoxicity is a concerning complication of immunosuppressive therapy, manifesting as various psychiatric and/or neurological symptoms.

Tacrolimus induces various neurotoxic side effects resulting in psychiatric symptoms likeanxiety, mood, and psychotic episodes along with neurological manifestations (e.g., tremors, dysarthria, apraxia, seizures, delirium, and coma).The neuropsychiatric complications may also occur with other immunosuppressants; for example, mycophenolate can induce depression.

Methotrexate is a disease modifying agent, an antimetabolite analog of folate that is used for a variety of conditions including psoriasis, rheumatoid arthritis and other autoimmune diseases. Methotrexate is a medication used in low doses to treat inflammatory skin conditions such as psoriasis and eczema/dermatitis. It is also prescribed for rheumatoid arthritis, psoriatic arthritis, and increasingly, other inflammatory and autoimmune disorders.

Methotrexate is potent neurotoxic, which is reported to cause widespread cortical, subcortical, hippocampal and white matter pathologies. Although psychiatric side effects are rare with methotrexate, cognitive and psychiatric disturbances have been reported. Few reports highlight the manic exacerbation with methotrexate which can be explained with the action of methotrexate by folate antagonism, resulting in deficiency of folate and secondly by interferences in serotonin and dopamine neurotransmitters. Methotrexate interferes with the biopterin pathway of monoamine metabolism and cause interference in glutaminergic neurotransmission (increased release in glutamate and aspartate) by high levels of homocysteine and sulfur-

containing amino acids which is resulted by the interference in folate metabolism.[6]

The psychiatric side effects such as depression, anxiety and even suicide ideation, may differ between groups of patients with arthritis according to the drug used (methotrexate, leflunomide and hydroxychloroquine),.

Relevant Drug Interactions:

A few relevant drug-drug interactions needto be kept in mind specifically in relation to dermatology and psychiatry.Anti-fungals like itraconazole and ketoconazole used in the treatment of dermatophytic infections are inhibitors of CYP3A4 and hence decrease the metabolism of several drugs including psychotropics like carbamazepine and pimozide which can precipitate the psychological symptoms.

Management of drug induced psychiatric disorders:

In management of dermatological drug induced psychiatric disorders, a close liaison is essential between the treating dermatologist and psychiatrist. There is a need for awareness of such side effects, prompt screening,timely referral and appropriate treatment like stopping the culprit agent and managing symptoms with psychotropic agents in case the psychiatric symptoms emerge. Detailed history taking for patients to be started on drugs having potent psychiatric side effects is of importance. Liaison is even more important when the dermatologist becomes the primary care provider in patients who will not accept referrals to psychiatric services. In such cases careful monitoring, involving the family members into the management plan becomes an essential step in case of psychiatric decompensation, complications, or poor outcome.

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Chapter-17

Approach to Suicide Prevention in Patients with Dermatological Condition

Vinay H.R.

According to the World Health Organization (WHO), the annual global age standardized suicide rate stands at 11.4 per 1 lakh population despite the under-representation of suicide due to social stigma, legal reasons and misclassifications with regard to cause of death while documenting.The above statistics is only with regard to actual suicide attempts and the proportion of people with suicidal risk is much higher. While suicide is an act of intentionally ending one's own life, suicidal risk in addition includes the ideas, repeated thoughts, planning and preparing for such acts. As per National Mental Health Survey of India (2015-16), the national suicide rate was 10.6 per 1 lakh population for the reporting year.The percentage of people having a risk of suicide was as high as 6.0%. With the growing concern of psychiatric disorders in dermatologic conditions,few studies undertaken to estimate prevalence of suicidality in association with skin diseases reveal it to be ranging around 4-15%. This chapter focuses on increasing the awareness on this issue and hence foster better mental health consultation liaison services.

The various clinical situations involving dermatology patients which deserve attention and assessment for suicidal behaviours can be classified under the following broad sections:

1. Comorbid psychiatric disorders
2. Primarily psychiatric disorders with dermatologic symptoms
3. Psychosocial impact due to dermatological conditions
4. Adverse effects of medications

Comorbid psychiatric disorders

As like in general population , the co-existence of psychiatric disorders like major depressive disorder, schizophrenia, substance abuse, post-traumatic stress disorder and certain personality disorders like borderline personality & dependant personality disorders pose significant risk of suicide even in patients with skin conditions. The dermatologists on identifying such illnesses,by screening, also need to additionally elicit history suggestive of suicidal ideas, impulses and/or plans if any.

Primarily psychiatric disorders with dermatologic symptoms

Disorders like body dysmorphic disorder (BDD), delusional disorders (e.g. parasitosis), Impulse control disorders like trichotillomania, factitious disorders etc come under this category wherein the underlying psychopathology results in skin manifestations like alopecia, recurrent skin lesions, excoriations and frequent consultations/dermatological procedures. Amongst these, BDD and delusional disorders carry significant suicidal risk more so with women with facial involvement. One needs to be aware that certain dermatological reactions can be the result of non-suicidal self-injuries and those patients are in need of further assessment for suicidal behaviour.

Psychosocial impact due to dermatological conditions

Recent literature evidence points towards wide range of psychosocial consequences particularly due to chronicity, disfigurement, severity or poor prognosis associated with certain dermatological conditions. Amongst these psoriasis, acne, atopic

dermatitis, urticaria, vitiligo, melanoma and other skin malignancies have been known to be associated with suicidal behaviour. Adolescents and women are known to be vulnerable in this regard. Individual coping ability and prevalent societal prejudices influence these kind of behaviours significantly.

Adverse effects of medications

Certain medications used in the context of skin conditions have been observed to be associated with suicidal behaviours though substantial evidence for definitive causation is lacking at this point of time. These include retinoids used in acne, TNF-á inhibitors like adalimumab, infliximab used in psoriasis and human monoclonal antibodies like brodalumab.

Approach to suicidality in patients with dermatological lesions

There are some patients approaching dermatologists who are at increased risk of suicide than others and hence need proper assessment and management. The risk factors for that are to be identified in them for categorizing and warranting additional attention are:

a) history of suicide attempts, severe mental or physical disorders, alcoholism, unemployment, bereavement or divorce, and access to lethal means.

b) those with skin diseases like severe psoriasis, acne, atopic dermatitis, melanoma

c) those in whom the skin lesions are associated with clinically significant emotional distress, changes in body image (eg, particularly on exposed body parts), difficulties in interpersonal relationships, and dysfunction in daily activities.

Mere mentioning of suicide with the patient does not put the idea in his or her mind.Instead, the discussion during screening

of suicidal ideation may provide reliefto the patientas their thoughts are acknowledged while providing an avenue to open up and to feel understood. Hence dermatologists can make use of simple screening tools like PHQ-9 (Patient Health Questionnaire) or even suggest patients to use self-evaluation apps like SAFL (Self -Assessment For Life) or authentic suicide helplines and refer those who are at risk to have a psychiatric consultation for further in detail assessment and management. Once liaison is established further clinical decisions are taken based on individual case to case basis. It is suggested that the patients with self-harm risk are to be seen along with at least one other reliable informant/caretaker wherever possible to communicate the risk and measures. Proper documentation of suicidal risk, communication to patient & family members and referral has to be made both in outpatient and inpatient setups. In patients with significant risk suggestions are to be given to caretakers with regard to restricting the access to lethal means (e.g. sharp weapons, toxic chemicals etc) and round the clock monitoring till psychiatric services are availed. Severely suicidal patients might require ECT (Electro Convulsive Therapy). Certain patients may need antidepressants if having syndromal depression and few might need psychotherapy sessions to deal with their self-harm ideations, underlying conflicts and personality issues. Patients with Delusional disorders require antipsychotics and those with impulse control disorders need SSRIs (selective serotonin reuptake inhibitors) and behavioural therapy. Ultimately, the awareness of these issues and proper liaison with psychiatry/psychology will benefit the patients with dermatological lesions and gives way for streamlined health services at large.

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Chapter-18

The Art and Science of Cognitive Behaviour Therapy (CBT) in Dermatological Practice

Paulomi M. Sudhir

Psychological issues in persons with dermatological lesions: the need for psychological interventions

Skin is the most visible part of the human body and ourselves. It forms a very important part in all our social interactions, in shaping one's self-image and self-concept, acceptance and social adjustment. Therefore, having a dermatological condition can have a significant negative effect on one's life, with far reaching consequences, especially when it develops in younger age group.

Concepts regarding our skin, its colour, appearance and type are further shaped by cultural beliefs and the society to which we belong.The patient's experience of psychosocial distress is variable and depends on the characteristics of skin disorder itself, the individual characteristics of patients and his or her life situations, and cultural attitudes related to skin disease (often expressed as stigma). The presence of a dermatological lesion poses several problems, including stigma, perceived or actual rejection from others and sense of defect or shame. These consequences are fuelled by various myths and misconceptions regarding the cause of dermatological lesions, such as their being contagious, disfiguring.

The skin is highly sensitive to emotional states and responses of the autonomic nervous system. Our emotional reactions, both

positive and negative, are manifested through the skin, such as blushing, sweating, flushing. Negative emotional states such as anger, anxiety can further exacerbate existing dermatological lesions creating a vicious cycle.

Common dermatological conditions that have significant psychological and psychosomatic involvement include eczema, psoriasis and acne atopic dermatitis, alopecia areata, dermatitis artefacta, herpes simplex, hyperhidrosis amongst others. Each of these conditions flare up, when they interact with emotional triggers or stressor. They are also associated with greater stigma in social situations due to the impairment in body image and changes in physical appearance of the person. In addition, treatments prescribed interfere with social appearance as they involve creams and lotions.

Historically, skin disorders characterized by depigmentation (vitiligo), physical changes or disfigurement, such as in Hansen's disease have been associated shame, stigma and discrimination. Psychological consequences can range from social anxiety, shame, to discrimination at work and school, in social circles and even affect the prospects of matrimony.

Thus the quality of life in persons with chronic dermatological conditions are significantly impacted by these issues (Buljan, Buljan, Zivkoviæ, Situm, 2008; Moon, Mizara,McBride, 2013).

There are three major groups of psychodermatological disorders; psychophysiologic disorders, psychiatric disorders with dermatologic symptoms, and dermatologic disorders with psychiatric symptoms. Along with the standard dermatological treatment, majority of these disorders can be treated with Cognitive-Behavioural Therapy (CBT), psychotherapeutic stress-and-anxiety-management techniques and psychotropic drugs (Papadopoulos, Bor, Legg, 1999' Picardi&Abeni,2001).

Stress-diathesis and psychophysiological processes

The rationale for psychological interventions in persons with dermatological lesions is based on the understanding that persons who are already vulnerable (diathesis), are more likely to experience a disease or clinical condition, when the diathesis interacts with the ongoing stress. This is in turn mediated by factors such as coping skills and resources, beliefs and other intrapersonal factors that increase or decrease the intensity of the symptoms.Thus the role of stress in dermatological conditions and the impact of stress on the skin is an important area of assessment prior to planning any psychological interventions and informs the choice of interventions.

Cognitive behaviour therapy (CBT)

Characteristics of CBT

Cognitive behaviour therapy (CBT) is a time limited and structured, evidence based psychological therapy that focuses on the relationships between thoughts, emotions and behaviours (Chambless&Hollon, 1998). It adopts a here and now approach and is based on the premise that our thinking or cognition or interpretation of experiences influence emotions and subsequent behaviours.

CBT comprises of various therapeutic procedures, broadly classified under the headings cognitive restructuring, coping skills and problem solving therapy (Dobson, 2010). Therapeutic procedures within CBT are drawn up on the basis of an individual functional analysis and a case formulation based on this analysis. These therapeutic procedures are based on learning as well as cognitive theories that explain the origin and maintenance of psychological problems.Techniques under the larger umbrella term of CBT include, arousal reduction methods such as relaxation training, coping skills, problem solving skills, verbal

and behavioural reattribution techniques that facilitate identification of negative thoughts and thought patterns, situations and events that trigger them and alternate, more rational or functional perspectives. CBT has proven efficacy across a variety of medical and psychological conditions (DeRubeis and Crits-Cristoph, 1998).

Applications of cognitive behaviour therapy to persons with dermatological lesions

The skin is highly responsive to emotional arousal and stress. The external appearance of skin lesions can lead to different degrees of disfigurement. Associated symptoms of persistent intolerable itching, burning, or pain may add to distress, insomnia, anxiety, and depression. The location of the skin lesion is also to be considered. Emotional changes can mediate various skin responses, thereby exacerbating existing skin disorders. In addition, the consequences of having a dermatological disorder can further contribute to psychological problems by way of stigma and dysfunctional beliefs about self and self-worth, avoidance of social situations, sad mood and psychological comorbidities (Kellet & Gilbert, 2001). These factors have led researchers and clinicians to apply cognitive behavioural techniques, such as relaxation training, exposure, coping skills, restructuring of beliefs to address these processes and thereby reduce their impact on the medical condition.

Implementing CBT

CBT is a structured psychological therapy and follows various steps that begin with assessment, identifying targets for therapy (such as negative mood, anxiety, beliefs), providing a rationale to the patient, and teaching the patient coping skills.

Assessment in CBT

A detailed assessment of the various factors that maintain a problem behaviour or emotions are done for assessing the person

for therapy, this is an important first step in planning CBT as it helps in setting targets for therapy. Assessment in CBT is often referred to as a behavioural or functional analysis.

A functional analysis is carried out that can aid the clinician in identifying factors that exacerbate skin problems-such as negative emotional states. Some common negative emotional states include, anticipatory anxiety (e.g. anxiety prior to exam, interview) emotional triggers such as anger, sadness, reactions to life events and so on. The functional analysis will also help in elicit factors maintaining distress and reactions, such as avoidance, dysfunctional beliefs, inadequate coping skills and problem solving skills, high arousability.

Some of the major areas to be assessed include the triggering factors, temporal correlations if any with the skin condition exacerbating, factors that relieve or aggravate it. Assessment will also include an examination of the beliefs associated with skin condition that may impact behaviours. Dysfunctional beliefs must be distinguished from actual experiences or events/facts. For example, a person may believe that because of my excessive sweaty palms, nobody will be friends with me, leading to the avoidance of social interactions, even without verifying whether is actually true or not. The person's avoidance will further strengthen the belief that "nobody will be friends". However person who has vitiligo and says that people avoid me in social interactions may not be expressing a dysfunctional belief.

Assessment of current mood state can be done the use of using rating scales and self-report measures such as the Hospital Anxiety and Depression Scale (HADS; Zigmond &Snaith, 19823) or the Beck's Depression Inventory (Beck, 1987), and Beck's Anxiety Inventory (1993), clinician rated scales such as the Hamilton's Anxiety Scale (1957), Hamilton's Depression Rating Scale (1950).

Educating the patient and providing rationale for CBT

This step helps in ensuring that the patient has understood and accepts the need for psychological interventions. As part of the introduction to CBT, the therapist explains the interactions between thoughts, emotions and behaviours and the impact of stress and physiological experiences on skin. Psycho education also helps in ensuring adherence to various strategies later in therapy, as a patient who accepts the rationale is more likely to adhere to the strategies.

In addition, this phase also helps in validating distress and at the same time provides rationale for interactions between stress and worsening of skin condition, present a cognitive behavioural model that can help link all the maintaining factors.

Behavioural methods:

Self-monitoring of thoughts and negative mood states involves recording in a diary format, the emotions, their intensity, situations in which they were first experienced, and thoughts that precede these emotions, and the conviction with which they are held.

Recognizing early signs of stress and physiological responses, such as increased heart rate, palpitations is important, so as to apply arousal reduction (relaxation methods) at the time of stress experience.

Arousal reduction

Several methods of arousal reduction can be employed. During stress and anxiety, the sympathetic nervous system is activated, resulting in a flight or fight response (increased heart rate, blood glucose levels and other response to deal with the threatening situation). Relaxation techniques aim at increasing the parasympathetic activity and countering these stress responses.

These include:

Training in deep muscle relaxation- Deep muscle relaxation is an important behavioural strategy that can help reduce physiological arousal, increase thresholds for stress and also help in bringing down the stress resolution period so that the time taken to return to baseline of emotional response is reduced.Other arousal reduction methods include use of deep breathing or diaphragmatic breathing, biofeedback procedures. It is important to train the person adequately in the relaxation response, so as to enable the person to experience relaxation.

When the anxiety triggers are very specific, such as examination, interviews, meeting people, that can trigger skin responses, then the patient may be trained in applied relaxation. Applied relaxation is a method in which the person learns to relax the body in a very short period of time (30 seconds) and this enables the person to relax just before entering a stressful situation. Applied relaxation is thus used as a coping skill. Applied relaxation involves several steps, including training in deep muscle relaxation, release only relaxation (with no tensing of muscles), cue controlled relaxation, differential relaxation and rapid relaxation. (Ost, 1987).

Exposure based techniques

In order to deal with anxiety and embarrassment and other negative emotions, people with skin conditions, may engage in anticipatory and avoidance behaviours, safety behaviours such as hiding one's face, using excessive make-up. These behaviours are likely to enhance self-consciousness and prevent processing of emotional responses (anxiety) and also prevent habituation to stressful situations.

Safety behaviours and avoidance also do not allow the disconfirmation of faulty beliefs about oneself with respect to

self-image, acceptance by others and other similar conditional beliefs.

Some of the techniques under CBT that are aimed at dealing with include exposure, and dropping of safety behaviours.

The rationale for using graduated exposure is to allow for habituation to negative emotional states, and not escaping or avoidance (that is use of safety behaviours). Graduated exposure is based on the principle of habituation and extinction. A hierarchy of situations that a person might typically avoid are developed (e.g. talking to a member of the opposite sex, being visible to a group of people), along with the degree of distress experienced (subjective units of distress). Following this the person is encouraged to face each of these situations, without attempting to escape or avoiding them, thereby allowing for habituation.

Exposure based techniques are used when the patient is using avoidance to manage distress. Avoidance can block the experience of negative emotions and the person would eventually not be able to disconfirm dysfunctional beliefs (I will not be accepted, I will be ridiculed).

Dealing with negative automatic thoughts: Cognitive restructuring

Negative automatic thoughts, dysfunctional beliefs and schemas or core beliefs are some other levels of cognitions that are addressed in CBT. These serve to maintain problematic behaviours and emotion, through the process of faulty appraisal.

Steps in dealing with these dysfunctional beliefs are carried out systematically and collaboratively between the patient and therapist. This process is known as cognitive restructuring (Hawton, Salkovskis, Kirk, & Clark, 1989).

The three major steps in the process of cognitive restructuring are:

Identifying negative automatic thoughts and dysfunctional assumptions using methods of self-monitoring, analysis of recent episodes of negative mood. Self-monitoring can be done through keeping a record of situations, emotions and thoughts that precede emotions.

Generating alternate perspectives, to the situation. This step involves a collaborative way of identifying other ways of viewing a situation (For example a person with psoriasis, who anticipates that people are looking at him because they have noticed the skin patches and avoids all interactions, may be encouraged to look at the situation from different perspectives such as they may be looking at him as he addressing them, or they are sitting opposite him in a bus).

The third step is that of logical analysis or systematically challenging dysfunctional beliefs using verbal and behavioural strategies.

Several verbal strategies may be used in this step. The key style adopted by the therapist is known as "Socratic dialogue " (Padesky, 1993), in which the therapist uses specific questions to elicit beliefs, clarify assumptions (e.g. Attractive people are popular, happy, successful and loved'; I will never be accepted by my colleagues, nobody loves me),evidence and counter evidence (how do I know that this is true), worst case scenario, double standards (supposing my friend were to say this to me what would my response be).

Behavioural strategies to modify beliefs are complementary to the verbal strategies. They include exposure to demonstrate that a feared consequence is not likely to occur, feedback using video or other behavioural experiments to challenge predictions (I will not be able to communicate adequately), dropping safety behaviours (covering face while speaking) role plays for training in assertiveness skills.

The final stage is to review coping skills (including social support) by keeping a blue print for the future.

Identifying and managing clinical depression is another goal in the management of persons with dermatological lesions. The efficacy of CBT in treating depression is well-established. Therapeutic procedures that help in alleviating depression within the framework of CBT include self-monitoring, behavioural activation, wherein the person is encouraged to engage in graded tasks such as every day activities while rating mastery and pleasure experience, keeping a positive data log and restructuring of beliefs that maintain depressive mood.

Strategies to improve self-image

Self- image is significantly affected in persons with skin lesions. Strategies to improve self-image focus on building evidence for positive images of self, self-acceptance-assertiveness, communication skills and enhancing interpersonal effectiveness.

Conclusions

Psychological interventions are important in the management of persons as they interact with and impact the course and prognosis of dermatological conditions, helping them cope and adapt to their condition, as well as in some conditions reduce frequency of exacerbation or worsening of the condition. Structured psychological interventions are particularly helpful as they address key issues in management. CBT is an evidence based psychological intervention that has been applied extensively in persons with dermatological lesions. The addition of a psychological intervention to the medical management of dermatological lesions can go a long way in improving the quality of life of patients.

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Chapter-19

Research in Psychodermatology

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"Understanding the whole requires to study each part of it"

- René Descartes

1.Introduction

The skin, with its reciprocal connections to the immune and central nervous systems, has an intricate relationship with the mind and can be conceptualized as a mirror to the inner mind just as the eyes are a mirror to the soul. It is now understood that psychiatric and psychological factors may play a relevant role in nearly 30% of dermatologic conditions.(1) A better understanding of the mechanisms mediating these links would augment management as well as inform secondary and tertiary prevention strategies for selected dermatologic conditions. With this background, we have divided this chapter on research advances in Psychodermatology under four headings – research into psychological factors affecting skin disorders and basic sciences including psychoneuroimmunology (both of which support the brain-skin axis); common screening tools to identify psychological morbidity in dermatologic settings; research into therapeutic aspects that cover both psychopharmacology and psychotherapeutic approaches with an evidence base in dermatologic disorders, and finally; high end research ideas in this field.

2. Research into psychological correlates and psycho neuroimmunology

Psychological correlates of common dermatologic conditions

Psychological variables may exert a pathoplastic effect on many common dermatologic conditions. A growing body of evidence suggests a robust association between stress and psoriasis. About 40-70% of patients with psoriasis reported having a stressful life event a month prior to the onset of the disease which is four times the rate seen in patients with infections or benign tumors (about 10%). In children with psoriasis, this rate (of experiencing proximal life events) is nearly 90%. Stress has been shown to be an important factor in periodic exacerbations of psoriasis too. Such patients, who experience increased stress, also have a predilection to develop lesions in areas like face, hands and genitalia. They are also younger, with increased interpersonal dependency traits and have difficulties in expressing emotions which may stem from deficits in coping skills.(2)

Psychiatric co-morbidity in psoriasis may either be primary or secondary to the socio-economic fallout of the disease process. Nevertheless, they have been linked more robustly to disability indices than the disease itself. A range of cross-sectional studies have demonstrated elevated rates of depression, anxiety, obsessional symptoms and anger expression deficits. No consistent relationship has, however, emerged between personality traits and psoriasis though. Increased rates of suicide and suicidal ideation have been reported in psoriasis with some evidence for a linear relationship with the disease severity parameters. Substance use, particularly, alcohol and nicotine, has been linked to adverse outcomes in psoriasis. Managing the substance use co-morbidity may,therefore, favorably impact the course of psoriasis.

Stress has a bidirectional association with acne. Scarring associated with acne can be a significant source of distress to patients. However, the secondary disability and quality of life impairment are often disproportionate to the clinical severity of the disorder unlike in psoriasis. Studies have noted significant rates of depression, anxiety, suicide and suicidal ideation among patients at the lower end of the acne severity spectrum. Effective treatment has been found to reverse many of these psychological morbidities. Acne has also been associated with eating disorders such as bulimia nervosa and body dysmorphic disorder (BDD). This may be because all these disorders have their onset during or around adolescence, a period where body image concerns dominate the cognitive landscape of the individual. Acne excoriee, which may be a variant of obsessive-compulsive disorder, is associated with higher dermatologic and psychiatric morbidity.

About 70% of patients with atopic dermatitis report a preceding life event prior to disease onset. Stress is also a predictor of disease severity in atopic dermatitis. A hyporesponsive hypothalamo-pituitary adrenal axis is believed to underpin the link between stress and atopic dermatitis. Higher levels of anxiety and depression have been noted in atopic dermatitis but results are inconsistent on their association with disease severity.

Regarding urticaria, more than half of patients surveyed (51%) reported associations between stressful life events and illness onset compared to 8% among surgical controls. Further, higher disease severity has been linked to higher emotional distress in this disorder. The psychological accompaniments of urticaria include anxiety, depression and unexplained medical symptoms with mostly positive correlations with disease severity. Apart from this, association with personality features such as alexithymia and hostility have also been described.

Poor coping and psychological distress may share a bidirectional relationship and may lead to social avoidance, substance use co-morbidity, and poor self-management including non-adherence to treatment measures in a range of dermatological conditions. However, the causal role of emotional distress in sub-optimal self-management is yet to be established and would have implications for integrated clinical management in psychodermatology.

2.2 Evidence for psychoneuroimmunological factors in dermatologic disorders

Psychoneuroimmunology (PNI), a term associated with the work of Ader and colleagues, refers to the study of the links between psychological factors and immune system functioning. The skin can be conceptualized as a visible interface of the physiological connections between the brain and the immune system. This three-way communication occurs mainly through a system of neuropeptides, interleukins and messenger system molecules which can modulate a variety of somatic (dermatologic) symptoms.

For instance, itching is both a sensory and emotional experience that can be seen in primary psychiatric as well as psychophysiological conditions including trichotillomania, prurigo, and pruritus vulvae. A variety of central nervous system mechanisms modulating itch sensation have been identified. One pathway described involves the release of histamine from eosinophils stimulated by vasoactive intestinal polypeptide, which in turn, is produced from acetylcholine released from cholinergic pathways. The histamine stimulates central H2 and H3 receptors and sets off a cascade ending in secretion of opioid peptides that stimulate peripheral mechanisms responsible for itch sensation. Other molecules found to stimulate itch receptors include neurokinin A, substance P, and Neuronal Growth Factor all of

which can be released by activation of type C sensory nerve fibers which serve to link the nervous system and the skin.(3)

Alopecia areata is another condition associated with immunological and neuroendocrine factors. The hair follicle harbors several immunosuppressive factors such as Adreno-corticotrophic hormone (ACTH) and MSH-I Additionally, immune privilege mechanisms, mediated via Major Histocompatidility Complex (MHC) Class-1 protein operate to prevent allergic reactions to follicle melanocytes. Several factors such as stress, psychological perturbations, micro-trauma and infections can inhibit the production of key immunosuppressant compounds and deactivate immune privilege leading to follicle damage and alopecia areata. Another pathway implicated in follicular damage involves the stimulation of B-lymphocytes by peptides related to calcitonin gene (CGRP). This leads to the formation of immune complexes involving IgG antibodies that induce apoptosis in keratinocytes leading to alopecia.

In psoriasis, a condition featuring proliferation of epidermal keratinocytes, several neuropeptides (neurotensin, substance P and NGF), released by sensory fibers, have been found to activate keratinocyte proliferation. Further, some neuropeptides such as GM-CSF activate granulocytes and macrophages leading to increased secretion of PGE2 and IL-10. This leads to stimulation of T-cells and vasodilation apart from stimulating keratinocyte proliferation. Neurological and immunologic factors have also been implicated in the melanocyte damage seen in vitiligo. Researchers have identified HSP-70, a shock protein released by central nerves which damages melanocytes by releasing antigenic proteins that in turn steps up release of pro-inflammatory cytokines and nitric oxide that cause melanocyte damage. Sensory fibre and type C nerve fiber activation also

releases compounds such as CGRP and NGF which has also been shown to accelerate melanocyte destruction.

Neurogenic stimulation of sebaceous glands plays an important role in pathophysiology of acne and seborrheic dermatitis. Neuropeptides, such as NGF, somatostatin and substance P, released from sensory nerves and peptides derived from POMC, stimulate sebaceous gland secretions. These activated glands also secrete several cytokines (IL-1, IL-6, TNF-á) that activate systemic inflammatory pathways which appear to be causally related to the dermatitis. In patients with atopic dermatitis, significantly lower NK-cell activity and IL-4 levels have been found in comparison to healthy controls and these two parameters seem to be modulated by psychologic factors such as anxiety and psychosocial factors respectively. Psychiatric and psychosocial factors are also thought to play a role in the pathogenesis of urticaria, primarily by stimulating cytokine release from mast cells and vasoactive peptides. However, the exact substances provoking the lesions are yet to be isolated in this condition.

3. Use of screening tools to detect psychological morbidity in dermatologic settings

Robust evidence exists that psychological factors play a role in many patients with dermatological conditions. However, unless the evaluation is systematically done, many such dermatologic patients carrying treatable psychological morbidity may slip under the physician's radar. In this scenario, the use of structured screening instruments aid in prompt detection and are convenient to incorporate in daily practice.The choice of screening instrument must be dependent on various factors such as sensitivity, specificity, cost and ease of administration. But, one must remember that though these scales are useful for screening,

many of them indicate only general distress and may not be specific for any particular psychiatric disorder. Hence, a specialist psychiatrist referral may be needed for those who fail these screens.

Several instruments have been developed and validated to detect depressive and anxiety syndromes. The Beck Depression Inventory and Zung Self-Rating Depression Scale are self-administered screening tools for depression while the Hospital Anxiety and Depression Scale can be administered by the clinician. Screening tools for children include the State Trait Anxiety Inventory for Children (STAIC), Screen for Child Anxiety Related Disorders (SCARED), and Children Depression Rating Scale (CDRS).Alcohol, Smoking and Substance Involvement Screening Test (ASSIST), Alcohol Use Disorder Identification Test (AUDIT) are commonly used screening tools for substance use disorders.

The General Health Questionnaire-12 (GHQ-12) is a screening instrument for psychological morbidity that takes about 6 minutes to apply and has been translated/validated in select Indian languages. A shorter 5-item version of this scale (GHQ-5) has also been validated for use in Indian population and shown to have robust psychometric properties.(4) Other short and convenient screening instruments for probable psychiatric cases include the 10-item Kessler psychological distress scale (K-10) which has undergone cross-cultural validation, the family of Patient Health Questionnaire (PHQ) screeners which include Generalized Anxiety Disorder (GAD) -7 for anxiety. The PHQ-9, from the same family of PHQ screeners, is a dual purpose short instrument in that it covers the diagnostic criteria for depression and also helps grade depressive symptom severity.

As such, it should be a suitable choice for those who wish to administer a diagnostic instrument in a busy outpatient setting.

4.Research into pharmacotherapy in psychodermatology

Antidepressants

Selective Serotonin Reuptake Inhibitors (SSRI) and Serotonin Norepinephrine Reuptake Inhibitors (SNRI), by virtue of their favorable side effect profile are among the first line agents for management of depression and anxiety spectrum disorders comorbid with primary dermatological illnesses.

SSRI have been found to exhibit antipruritic action due to the action on serotonergic and opioid system. Among the SSRI, Paroxetine, Fluoxetine and Sertraline have been demonstrated to be beneficial in pruritus of several kinds such as paraneoplastic syndromes, polycythemia vera, hepatic, biliary and psychogenic. Further among the primary dermatological illnesses, SSRI had the best antipruritic effect against atopic dermatitis.

Mirtazapine, which is a selective noradrenergic and specific serotonergic receptor antagonist has also demonstrated efficacy as an antipruritic agent in chronic nocturnal pruritus as well as pruritus secondary to carcinoma, hepatic and renal failure. Though tricyclic and tetracyclic antidepressants such as amitriptyline, doxepin have also been found to have antipruritic action, their usage is limited by side effect profile.

Opioid antagonists

Mu opioid antagonists such as Naltrexone, naloxone and Nalmefene have shown efficacy in randomized controlled studies in alleviating pruritus secondary to atopic eczema, chronic urticaria and cholestatsis.

Antipsychotics

Pimozide, though previously promoted for management of delusional parasitosis, has fallen out of favor due to unfavorable side effect profile, particularly a higher risk of QTc prolongation on electrocardiogram. Risperidone, Olanzapine, Quetiapine and Amisulpride are the atypical antipsychotics which have a favorable evidence base in management of delusional parasitosis. Current evidence suggests that there is no difference in the effectiveness of typical and atypical antipsychotics for this condition. The relationship between antipsychotics and Psoriasis remains inconclusive and controversial. It was hypothesized that antipsychotics due to the effect on cytokines might play protective role in Psoriasis. Limited evidence exists regarding protective effect of olanzapine in psoriasis. However, there have also been reports of antipsychotics worsening psoriasis.

Mood stabilizers

The role of mood stabilizers in dermatology is largely limited to management of comorbid Bipolar Disorder. Besides, 3.4% to 45% of patients on Lithium were found to have dermatological adverse effects. The dermatological manifestations reported are acne, hidradenitis suppurativa, dermatitis, disorders of keratinization, mucosal lesions and papulosquamous skin lesions. Long term exposure to lithium has been reported to increase the risk of developing as well as exacerbating psoriasis.

Anticonvulsants such as Valproate are also found to be associated with a range of dermatologic disorders such as alopecia, acne, erythema multiforme, rash, pruritus, Stevens-Johnson syndrome, dermatitis, pigmentation, hyperhidrosis and psoriasis.

Psychiatric adverse effects of dermatological medication

Depression is a noted side effect with Isotretinoin, Methotrexate and Interferon alpha. Steroids have been reported to cause psychosis as well as mood disorders. It is important to

evaluate mood state periodically in patients receiving Ultra Violet (UV) light therapy. Dapsone has been demonstrated to cause psychosis. However, much of the evidence is anecdotal in nature and therefore, the causality of psychotropic agents in inducing these adverse events cannot be established.

5. Research into psychotherapy in psychodermatology

Several psychological interventions such as Cognitive Behavioral Therapy (CBT), mindfulness based interventions such as meditation and CBT, relaxation techniques including progressive relaxation, biofeedback, behavioral therapy such as habit reversal, written emotional disclosure, hypnosis, psychodynamic psychotherapy have been tried in patients with dermatological illnesses. The results have been found to be promising with a meta-analysis of 22 studies reporting a moderate effect size for psychological interventions in adults.(5) Maximum evidence exists for CBT among all the psychological interventions. CBT is a problem focused short term psychological intervention which addresses the maladaptive beliefs and assumptions called cognitive distortions. Individual and group forms of CBT administered over varying durations have been reported. CBT has been found to improve the global severity of skin condition, coping, decrease symptoms such as itching as well as depressive symptoms in adult patients with atopic dermatitis and psoriasis.(6) In children with atopic dermatitis, CBT has been demonstrated to show encouraging results. CBT was found to improve coping, self-esteem and decrease depressive symptoms across several studies in patients with Vitiligo.

Mindfulness based interventions are based on the premise of a nonjudgmental "here and now" approach. Mindful based interventions were found to improve quality of life and skin clearing with a decrease in subjective severity of illness in Psoriasis. A recent study has reported improvement in quality of

life and perceived stress in patients with moderate/severe alopecia areata who received eight weeks of mindfulness based stress reduction intervention.

Biofeedback and hypnosis are regarded as forms of complementary psychotherapy. Biofeedback is purported to be beneficial in dermatological illnesses with autonomic hyperactivity such as hyperhidrosis. Hypnosis was found to improve acne excoriee, alopecia areata and various forms of dermatitis. Habit Reversal Training (HRT) in combination with stimulus control methods have been found to be effective in treatment of Trichotillomania in adults as well as children. HRT was also noted to be beneficial in reducing scratching in children with atopic dermatitis in combination with steroids.

Though the overall results have been encouraging, the translation of research from bench to bedside is faced with certain pragmatic challenges such as time constraints,limited skilled professionals to deliver psychological interventions and poor uptake of psychological interventions by patients to name a few.

6. High-end research ideas in Psychodermatology

To facilitate better collaboration between dermatologists and psychiatrists and foster multi-disciplinary research, the need of the hour is to form a national level association along the lines of Association for Psychoneurocutaneous Medicine of North America. Psychoneuroimmunology (PNI) is emerging as a hot area for focused research in Psychodermatology. Future researchers must build on the initial promise of PNI by constructing immune and inflammatory signatures for specific dermatologic conditions. This will pave the way for 'personalized medicine' approaches to management. Preliminary data provide a basis for evaluation of MSH and other neuropeptides as novel anti-inflammatory treatment targets in dermatology. (7) There is a dearth of good quality randomized controlled trials that

evaluate efficacy of treatment approaches such as cognitive-behavior therapy in psychodermatologic conditions. One Cochrane review in this area is available for body dysmorphic disorder but much more work needs to be done. Future researchers should focus on building data to inform psychological services for clients as well as build an evidence base for efficacy of different psychotherapeutic approaches in psychodermatology. Establishing national guidelines for evaluation and management of these patients would promote integrated clinical management and highlight areas for further research.

7. Conclusion

Biological and clinical data support the links between psychological factors and clinical expression of dermatologic disorders.Given the strength of this evidence, the dearth of studies exploring the efficacy of treatments from a psychological perspective is rather striking. Various compounds that may mediate this brain-skin interaction, related primarily to the immune and endocrine systems, have been isolated and consistently replicated. Data, though small, is promising and suggest that these pathways may serve up novel pharmacologic and psychosocial treatment targets that may be of interest to the dermatologist. There is lot of scope for further research in this area and establishment of national consortiums would give a fillip to such efforts.

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