

### Chronicity in clinicopathologic presentation of dry-type cutaneous leishmaniasis

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Leishmaniasis is a vector-borne, intracellular protozoan infection that is endemic in 88 countries with 12 million cases worldwide and 2 million new cases each year.

The four clinical presentations include visceral, mucocutaneous, cutaneous, and localized lymphadenitis, depending on the species and host immunity. The World Health Organization classifies leishmaniasis as old- and new-world types, and the infection is one of the sixth most important infectious diseases in the world. Dry-type cutaneous leishmaniasis (DCL) is a variant of old-world leishmaniasis. There are two clinical types that are distinguished by their duration: Acute is <2 years and chronic >2 years.

**Methods:** We evaluated 90 cases of DCL on clinical presentation with regard to histopathologic changes.

**Results:** In the acute type, there were more Leishman bodies in comparison with the chronic type. The chronic type had more granulomas and nonspecific dermal lymphohistiocytic infiltration, and there were variable epidermal changes.

**Conclusions:** Although there was no exact correlation between clinical and pathologic changes, chronicity is associated with specific histopathologic findings, which are dependent on both the site of the body and the host immunity.

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### Elucidating the role of the skin and gut microbiome in the development and pathogenesis of alopecia areata

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**Background and aims:** Alopecia areata (AA) is autoimmune-based hair loss that affects 2% of the population. The exact pathogenesis of AA is unknown and possibilities include derangements in innate immunity, environment, and genetic predisposition. Recent cases postulate that the gut microbiome plays a role in AA development. This project aims to characterize the local (scalp) and global (gut) microbiome of patients with AA and compare the results to those of healthy controls to determine significant differences.

**Methods:** A total of 25 patients with AA and 25 healthy controls from Southern California were enrolled. Efforts were made to match controls and patients with alopecia on the basis of age, sex, and race. Patients were required to have no active gastrointestinal disease at the time of the sample collection. Scalp swabs and stool samples were obtained from each subject. Bacterial operational taxonomic units were identified, and taxonomy was assigned using the appropriate database. An analysis to compare the alopecia and control microbiomes was performed.

**Results:** The average age of the AA group was  $40.3 \pm 14.7$  years (control group:  $35.9 \pm 14.6$  years). Sixty percent of the patients with alopecia identified as Caucasian, 20% Asian, 12% Hispanic, and 8% African American (control group: 64% Caucasian, 16% Asian, 16% Hispanic, 4% African American). Significant differences were noted in the scalp and gut microbiome composition of the alopecia and control groups.

**Conclusions:** Preliminary data suggest that there are significant alterations in the bacterial skin and gut microbiome of patients with

alopecia versus healthy subjects. Dysbiosis in predisposed patients may cause systemic inflammation and autoimmune alopecia. These data may be used for future studies to characterize changes in the microbiome related to disease severity, prognosis, dietary practices, and predict therapeutic response.

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### Treating hidradenitis suppurativa during pregnancy

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**Background:** Hidradenitis suppurativa (HS) is a chronic inflammatory disease with significant debility and psychological impact, especially during the late stages of the disease. Patients with advanced disease merit aggressive treatment, even during pregnancy. Studies show that pregnant women can have worsening symptoms (approximately 10%) or no relief (approximately 70%). Many HS therapeutic options are available during or before pregnancy, but practitioners may not be aware of these options.

**Methods:** We present three women with advanced stage HS to demonstrate therapies during pregnancy and outline the risk category, adverse effects, and potential fetal outcomes of each case.

**Results:** Case 1 is a 32-year-old woman with Hurley-Stage III HS of the bilateral groin, buttocks, and axillae. She underwent multiple treatments including benzoyl peroxide (BPO) wash, chlorhexidine, clindamycin lotion, intralesional steroid treatments, extended courses of combination benzoyl peroxide (PO) antibiotic treatments, spironolactone, PO prednisone, isotretinoin, dapson, intravenous ertapenem, adalimumab, Nd-Yag laser, and CO2 laser excision of the sinus tracts in both axillae. Despite this, her disease progressed, and she required infliximab for stabilization. During her pregnancy, the HS flared, and she was managed with infliximab through dermatology, rheumatology, and maternal fetal medicine. Case 2 is a 29-year-old woman with Hurley-Stage III HS of the bilateral groin and axillae. She completed BPO wash, clindamycin lotion, extended combination courses of PO antibiotic treatments, intralesional steroid agents, and CO2 excision of the sinus tracts in the bilateral groin. The HS flared during pregnancy and was managed with BPO wash, PO clindamycin, and PO prednisone. Case 3 is a 39-year-old woman with Hurley-Stage III HS of the bilateral groin, inframammary region, and axillae managed with adalimumab while planning pregnancy.

**Conclusions:** As the recognition of HS improves, so should the management of pregnant patients. We can use data generated by patients with rheumatologic diseases to extrapolate safety for certain biologic agents during pregnancy.

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### The use of co2 laser for facial cutaneous neurofibromas in neurofibromatosis type 1 – a case report and literature review

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