

Recurrent basal cell carcinoma in patient treated by cryotherapy

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Abstract Basal cell carcinoma (BCC) of the skin is the most common malignancy in the human population. One of the most negative features of this disease is frequent tumor recurrence. Unfortunately, all of the traditional diagnostic criteria have failed to definitively predict which patients should be considered at high risk of recurrence. We present an 88-year-old man with recurrent BCC (superficiale multicentricum) occurring three years after successful treatment of BCC (morpheiforme) with cryotherapy. Careful monitoring must be undertaken for at least 3 years; however, the most appropriate course is a lifetime of regular follow-up.

Key words

Basal cell carcinoma, cryotherapy, morpheiforme, superficiale.

Introduction

Basal cell carcinoma (BCC) is the most common type of facial skin cancer. It represents alone approximately 65% of all epitheliomas,¹ and the incidence is 4-fold higher than that of squamous cell carcinoma.² Among predisposing factors, chronic exposure to the sun and/or to other types of ionizing radiation plays the main role. Other significant factors include immunosuppression, pre-existing cutaneous lesions and genetic conditions (e.g. albinism, xeroderma pigmentosum, and Gorlin-Goltz syndrome, Bazex syndrome), immunosuppressant settings such as AIDS and organ transplantation.³

The reported annual incidence is approximately 65/100,000 individuals in

Europe, 146/100,000 in the US and reaches 726/100,000 in Australia.^{4,5}

The tumor may occur at any age, but a higher frequency is noted in males and in older age, with a peak around the age of 70.^{6,7,8} Nearly 80-85% of BCCs involve the head and neck region and 25-30% are localized in the nasal area. Other frequently involved anatomical regions are the cheeks, the retroauricular area, the forehead, the periorbital zone, and, in particular, the inner canthus.⁹

Although it is described as a slow growing tumour and metastases are extremely rare (<0.1%), BCC may lead to considerable morbidity and complications, with particular reference to cases of recurrence following surgical excision of primary lesions. Recurrent cases of BCC tend to have a more aggressive course.¹⁰ The rates of recurrence appear to depend, to a large extent, on the anatomical localization, the histological characteristics, the initial treatment strategy and the eventual neoplastic margin involvement. A variety of

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Figure 1 Skin lesion on the forehead (March, 2010). Carcinoma basocellulare morpheiforme.



Figure 2 Skin lesion on the forehead (June, 2013). Carcinoma basocellulare superficiale multicentricum with marginal shallow ulcer.

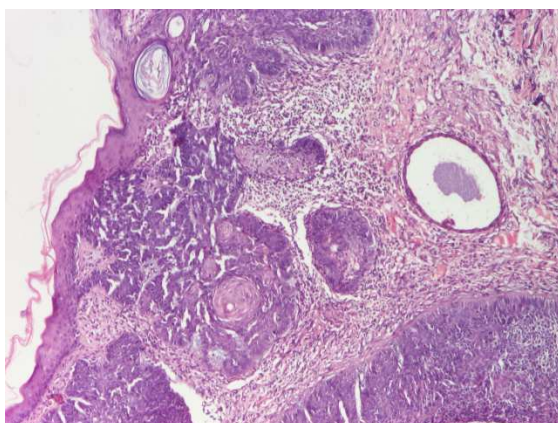


Figure 3 Histopathology showing several basaloid nests in the dermis, small hyperchromatic nuclei, and a palisading pattern.

therapeutic options e.g. surgical excision, Mohs micrographic surgery, curettage, diathermocoagulation (DTC), cryotherapy,

photodynamic therapy, radiotherapy and application of local cytotoxic drugs have been used.^{10,11}

Five-year recurrence rates reported for primary BCCs are: Mohs microsurgery 1%, traditional surgical excision 10.1%, radiotherapy 8.7% or cryosurgery 7.5% and curettage and DTC 7.7%.^{2,12} The recurrence of basal cell carcinoma ranges between 4% and 18%.

Case report

In March, 2010, an 85-year-old man came to the Dermatology Clinic with the skin lesion around the forehead for about 2 years (**Figure 1**). A biopsy specimen from the skin lesion showed several basaloid nests in the dermis, small hyperchromatic nuclei, and a palisading aspect, which led to a diagnosis of basal cell carcinoma – morpheiforme type. Considering the comorbidities like heart failure and hypertension and concomitant anticoagulant therapy, cryotherapy with liquid nitrogen - spray method, was used. The patient did not complain of any side effects (except slight pain).

The patient was treated intermittently, reaching a satisfactory result after 2 months of treatment. Control biopsy was negative. Periodic follow-up, twice a year, did not show clinical recurrence of BCC for two years.

Recurrent multifocal BCC was noticed in May 2013 (**Figure 2**). On histopathological examination, basal cell carcinoma was diagnosed (**Figure 3**). Cryotherapy was restarted as the patient did not consent for any other intervention. After 10 treatments of cryotherapy, the patient discontinued treatment and did not turn up for follow-up.

Discussion

Cryotherapy is an alternative treatment option when surgical removal of a tumor may be difficult or, for some patients, impossible. It is a local modality with minimal invasion, is less costly and less painful during and after the procedure, and can be done in an outpatient clinic.

Sinjab *et al.*^{13,14} in two different studies described very good treatment results without recurrence after cryotherapy in patients with Bowen disease and keratoacanthoma.

Cryosurgery is a common form of treatment for BCC in dermatological practice where it is most suitable for primary, well-defined superficial lesions of low risk.¹⁵ Many studies demonstrated satisfactory cure rates. Success rate is technique-dependent and a review of multiple series reported a recurrence rate of 7.5% as compared with other treatment modalities. With cryotherapy, there is tenderness, blistering and sloughing of necrotic tissue, with possible hypopigmentation and scarring, but our patient did not develop any such adverse events.

In a 6-year study, Sartore *et al.*¹⁶ found that gender and age were not significantly correlated with recurrence of BCC. The recurrence probability was 2.7 times higher ($p < 0.01$) for patients with determined predisposing factors. After evaluation of the histological characteristics of the BCCs, sclerodermiforme and the metatypic-basaloid squamous cell-pleomorphic patterns were significantly predisposed to recurrence ($p < 0.01$), and the recurrence probability increased, respectively, ~2.5- and 4.5-fold with respect to other types of BCCs.

Bartoš *et al.*¹⁷ described that recurrent carcinomas represented 4.9% of all diagnosed cases during the observed period; on the

forehead of one person.¹⁷ The majority of recurrences occurred within 3 years after the primary treatment.

Chiriac *et al.*¹⁸ presented 3 patients of BCC treated with liquid nitrogen cryotherapy with very good, relapse-free response. BCCs that recurred after previous treatment were considered more difficult to cure as compared with primary tumors. Overall 5-year recurrence rates reported were as high as 15.4% for BCC and 5.9% for SCC.¹⁹

Blixt *et al.*²⁰ reported 27% recurrence rate for histologically aggressive BCCs treated using electrodesiccation and curettage alone with median 6.5 years follow-up. 10 recurred within 3.3 years. Average primary tumor diameter was 0.69 cm. Average primary tumor diameter was 0.73 cm for those that recurred and 0.67 cm for those that did not recur. Six recurrences were in high-risk areas, three in moderate-risk areas, and one in a low-risk area.

Some authors assert that an appropriate follow-up should not be less than 5 years, while others advise a 10-year period after which the risk of recurrence of BCC with infiltrated margins is equal to that of a completely excised lesion. The authors from Slovakia observed recurrent after 3 years,¹⁷ as in our patient.

We recommend that the most appropriate course is a lifetime of regular follow-up. This approach allows for the early detection of recurrence and ensures more conservative treatment strategies.

References

1. Asilian A, Momeni I, Khosravani P. Basal cell carcinoma superimposed on a cutaneous leishmaniasis lesion in an immunocompromised patient. *J Res Med Sci.* 2012;17:108-10.
2. Lopes Filho LL, Soares Lopes LR, Lima IP *et al.* [Frontal basal cell carcinoma with superciliar affection: surgical treatment

- with bilateral advancement flap]. *Surg Cosm Dermatol*. 2009;1:103-4.
3. Hassan I, Abid K, Mashkoor A, Qazi M. Bazex syndrome – a case report. *N Dermatol Online*. 2011;2:18-20.
 4. Mahajan VK, Chauhan PS, Mehta KS, Sharma V. Favre-Racouchot Syndrome. *Our Dermatol Online*. 2013;4:328-9.
 5. Molina AL, Mejía M, Restrepo R. Congenital and multiple basal cell carcinoma. *Rev Assoc Colomb Dermatol*. 2011;19:85-88.
 6. Toraub K, Jeewon R. Sociodemographic factors and their association to prevalence of skin diseases among adolescents. *Our Dermatol Online*. 2013;4:281-6.
 7. Hassan I, Dorjay K, Sami A, Anwar P. Sunscreens and antioxidants as photo-protective Measures: An update. *Our Dermatol Online*. 2013;4:369-74.
 8. Laniauskaite I, Ožalinskaite A, Strupaite R, Bylaite M. Skin cancer knowledge, attitude and behavior towards sun exposure among young adults in Lithuania. *Our Dermatol Online*. 2011;2:189-95.
 9. Martínez Braga G, Riveros R, Di Martino Ortiz B *et al*. Dermatoscopy: contribution as a method to define surgical margins in basal cell carcinomas of the face, neck and trunk. *Our Dermatol Online*. 2013;4:28-31.
 10. Ejaz A, Aurangzeb, Awan ZI, Bux H. Basal cell carcinoma involving the skin of breast – a rare site. *J Pak Assoc Dermatol*. 2006;16:49-51.
 11. Lezcano L, Di Martino Ortiz B, Rodriguez Masi M *et al*. [Bowen's disease treated with cryotherapy combined with topical 5% imiquimod. Alternative treatment to surgery in elderly patients with co-morbidities. *N Dermatol Online*. 2011;2:61-4.
 12. López M, Pasquali P. Management of basal cell carcinoma high riesgo. *Dermatol Venezol*. 2006;44:388.
 13. Sinjab AT, Brzeziński P. Cryotherapy for Bowen's disease. Own experience. *Dermatol Prakt*. 2012;4:17-22.
 14. Sinjab AT, Brzeziński P. Cryotherapy as an alternative treatment in keratoacanthoma. Own experience. *Dermatol Prakt*. 2012;5:31-6.
 15. Al-Bdour M, Al-Khateeb M. Reconstruction of nasal skin defects following excision of basal cell carcinoma. *N Dermatol Online*. 2011;2:125-9.
 16. Sartore L, Lancerotto L, Salmaso M *et al*. Facial basal cell carcinoma: analysis of recurrence and follow-up strategies. *Oncol Rep*. 2011;26:1423-9.
 17. Bartoš V, Pokorný D, Zacharová O *et al*. Recurrent basal cell carcinoma: a clinicopathological study and evaluation of histomorphological findings in primary and recurrent lesions. *Acta Dermatovenerol Alp Panonica Adriat*. 2011;20:67-75.
 18. Chiriac A, Mihaila D, Foia L, Solovan C. Basal cell carcinomas in elderly patients treated by cryotherapy. *Clin Interv Aging*. 2013;8:341-4.
 19. Hamilton JR, Parvataneni R, Stuart SE, Chren MM. Recurrence 5 years after treatment of recurrent cutaneous basal cell and squamous cell carcinoma. *JAMA Dermatol*. 2013;149:616-8.
 20. Blixt E, Nelsen D, Stratman E. Recurrence rates of aggressive histologic types of basal cell carcinoma after treatment with electrodesiccation and curettage alone. *Dermatol Surg*. 2013;39:719-25.