CRYOTHERAPY IN BASAL CELL CARCINOMA

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Cryotherapy has proved to be an effective tool in the management of various dermatoses. We report 6 patients with histopathologically proven basal cell carcinoma of variable sizes treated with liquid nitrogen cryotherapy by the open spray technique. Lesions tended to heal with depigmentation and scar formation . However depigmented areas often repigmented over a period of time.

Key words : Basal cell carcinoma, Cryotherapy

Introduction

Basal cell carcinoma (BCC) is the commonest cancer occurring in man. Although its incidence is much higher in Caucasians, it is not uncommon in India. Treatment modalities available include curettage and electrodessication, excision, Moh's surgery, radiation, cryosurgery, CO2 lasers, 5 - fluorouracil etc.[1] Treatment is selected on the basis of number, size, site and type of lesion and the experience of the treating physician. Cryotherapy is being increasingly used in the management of basal cell carcinomas.

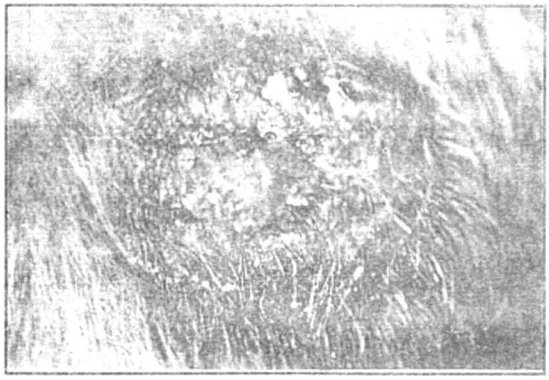

Fig 1 : BCC on the scalp

Materials and Methods

Six patients, 4 males and 2 females with histologically proven basal cell carcinoma were chosen for the study. Clinical details of the patients are given in table 1. All had nodulo-ulcerative type of BCC with well-defined margins. H & E in all patients showed tumour islands composed of basalioma cells with peripheral palisading arrangement. The patient with the presternal lesion had a sclerotic component in addition and differ-

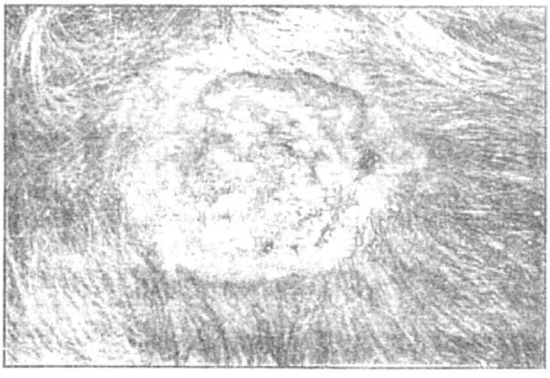

Fig 2 : Scar at site of scalp lesion 1 month after

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ential diagnosis of syphilitic gumma was considered as the first biopsy revealed an intense infiltration of plasma cells and no tumor islands; however a repeat biopsy revealed the classical features of BCC and his VDRL,

Table I. Clinical features of basal cell carciroma in 6 patients.

No	Sex	Age	Duration	Site	Approx Size
1.	M.	48	8 Y	Cheek	3 x 3 cms
2.	M	74	1.5 Y	Scalp	3 x 2.5.cms
3.	M	72	7 Y	Presternal	4 x 3.5 cms
4.	M	54	10 Y	Back	1 x 1 cms
5.	F	54	5 Y	Infraorbital	1 x 1.3 cms
6.	F	75	6 M	Nose	1 x 1 cms

TPHA, HIV Elisa tests were negative. One patient with lesion on the back showed few areas of cells with squamoid features in addition.

Under local anaesthesia, liquid nitrogen cryotherapy was given using a hand held cryocan (CRY- AC) by the open spray technique with the wide bore spray-tip held 1-2 cms away from the lesion until a hard ice ball had formed under the lesion. Two freeze - thaw cycles were given. Freeze time ranged between 30 seconds to 3 minutes depending on the size of the lesion and the lateral spread of frost measured 3 - 5 mm beyond margins of the tumour. Thaw time varied between one to ten minutes.

Thermocouples were used only in 1 patient and temperature achieved at the base was - 50°c to - 60°c. In all others the ice ball formation, lateral spread of frost, time and size of lesion were used as guidelines for freeze duration. In the patient with BCC on scalp the lesion was first debulked by a shave technique and the cryogen was administered. All were treated with dry gauze dressings, analgesics and a course of antibiotics.

Results

Twenty- four hours following treatment patients developed oedema, oozing and blister formation. A dry crust formed in 2 - 4 weeks and complete wound healing occurred within 4 - 6 weeks with scarring and depigmentation. In two patients the wound had got secondarily infected and patient had to be put on a second course of antibiotics. Over the course of the next few months depigmented areas slowly repigmented.

Discussion

High cure rates have been achieved with cryotherapy in BCCs. Zacainn[2] reported a cure rate of 97% and Kuflik and Gage [3] reported a 5 year cure rate of 99%. The cryogen produces cellular damage by intra and extra cellular ice crystal formation, vascular stasis and local electrolyte imbalance [4] Collagen fibres, cartilage and bone are resistant to damage by cryogen which enables healing and allows selective destruction of tumors overlying bone or cartilage[4] as was seen in 3 of our patients.

The advantages are it is a simple office procedure, cost effective and can be used in those with medical risk for surgery. Disadvantages include prolonged healing time, depigmentation and scarring. Depigmentation results due to the susceptibility of melanocytes to damage from freezing. Although cryotherapy is usually employed for smaller lesions (< 2 cms), we found it effective in the larger ones too. Recurrences usually occur during first 2 years after treatment. [4] In a recent study Kuflik and Gage [5] treated recurrent BCCs ranging in size from 0.6 to 4.4 cms with cryotherapy and found it to be effective and the results comparable with other methods of treatment. Our follow - up time has varied from 4 months to 2 years and all patients are doing well.

References

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