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The Role of Wider Safety Margins in the Prognosis of the Basal Cell Carcinoma of the Face and Scalp

Keywords: Basal Cell carcinoma (BCC); Recurrence; Wider safety margins

Abstract

The aim of this study was to assess the wider safety margins and its role in recurrence rate of the Basal Cell Carcinoma of the face and scalp. We excise the basal cell carcinoma with wider safety margins (5 mm). In all patients there were safety margins of 0.5 mm in all directions of the tumor, peripheral and deep margins, and histopathological study of the excised lesions revealed clear surgical margins and deep layer from the tumor cells and follow-up for 3 years revealed no recurrence in any of our patients. The best cosmetic appearance was obtained in cases reconstructed by rhomboid flaps and only one case reconstructed by forehead flap needed revision.

Introduction

Basal Cell Carcinomas (BCCs) are the most common forms of skin cancer [1]. They rarely metastasize but are often locally aggressive, with a small percentage showing multiple recurrences. They also have a possible, although as yet unproven, adnexal origin and often show differentiation toward adnexal structures [2,3]. Usually, basal cell carcinoma (BCC) appears as a slowly growing tumor arising on sun-exposed areas of the body; the face being the most common site [4]. It is well-known that recurrence rates are higher for larger and previously recurrent tumors, as well as for more aggressive histologic subtypes [5-9].

In this study, I used wider safety margins technique to assess their role in recurrence rate.

Patients and Methods

Patients

The current prospective study was carried out at Minia University Hospital, Egypt, during the period from January 2003 to February 2007. It included 45 patients that were presented by primary Basal Cell Carcinoma (BCC). The median age of the patients, was 64 year (ranged between 56 and 72 years). Table 1 demonstrates all clinicopathological data of the patients included in the study (including age, gender as well as the site of the lesion).

All patients were subjected to thorough history taking, routine clinical examination in addition to essential laboratory investigations and tissue biopsy (punch biopsy) analysis. All patients have given written informed consents for the surgical interference as well as for enrollment in the study.

Surgical procedure

The different presentations of the patients were: BCC of the cheek

(10), nasolabial fold (7), nose (5), upper lip (5), forehead (5), lower eye lid (3), outer canthus (3), inner canthus (2), and scalp (5) cases (Table 2). There were variations in surgical techniques according to the site, size and availability of the tissue around the tumor, but all the surgical procedures were performed as follows: clinically clear margins were determined around the tumor by sterile marker, a 5 mm rigorous safety margins around the tumor were marked (Figure 1). Local anesthesia was obtained with infiltration of lignocaine 0.1%: with adrenaline one in 100,000, which was injected beneath and around the area marked for excision and subsequent reconstruction, and the excised specimen was marked with a suture to provide orientation. The excised specimen was submitted for histologic confirmation of the diagnosis and examination for clearness of the surgical margins. Reconstruction was performed with different types of local faciocutaneous flaps (rhomboid, rotational, island and advancement flap), the wound were closed in layers using 4/0 Vicryl and 5/0 proline. 5-7 days postoperatively the sutures were removed and follow-up of the patient in the hospital clinic was carried out at

Table 1: Demonstrates the site and gender distribution of the cases.

Site	Gender		Number
	M	F	
Cheek	7	3	10
Nasolabial fold	3	4	7
Nose	3	2	5
Upper lip	4	1	5
Forehead	5	0	5
Lower eye lid	2	1	3
Outer canthus	1	2	3
Inner canthus	0	2	2
Scalp	2	3	5

Table 2: Demonstrates the surgical procedures.

Procedure	Number	Percentage
Rhomboid	30	67%
Rotational	11	25%
Advancement	2	4%
Island	2	4%

one to three months for the first year, and every six to 12 months for the next 2 years.

Pathological specimens

All surgically removed tumor biopsies from the 45 patients included in the study, have been subjected to histopathological examination. Each specimen was immediately fixed in 10% buffered Formalin, processed in different grades of alcohols and finally processed into paraffin wax blocks. Paraffin serial sections of 4µm thick were cut from each specimen and stained for routine Haematoxylin & Eosin (H&E). All tumors were histologically graded.

Results

Through 4 years 45 patients with Basal Cell Carcinoma (BCC) of the face treated by surgical excision with safety margins and reconstruction of the defect by local flap. The size of the lesion with the safety margins varies from 2-4 cm in diameter. In all patients there were safety margins of 0.5 mm in all directions of the tumor, peripheral and deep margins, and histopathological study of the excised lesions revealed clear surgical margins and deep layer from the tumor cells and follow-up for 3 years revealed no recurrence in any of our patient. The best cosmetic appearance was obtained in cases reconstructed by rhomboid flaps (Figures 2, 3 and 4) and only one case reconstructed by forehead head flap needed revision.

Discussion

Most basal-cell carcinomas are treated worldwide by surgical excision [10]. The recurrence rate for basal cell carcinoma after complete conventional surgical excision is low in the order of 1% [11]. The standard surgical margin for primary nonmelanoma skin cancers is 4 mm [12,13]. In a study done by Kimai Asadi et al. they



Figure 3: Nodular BCC left cheek and 9 months after excision and reconstruction by Rhomboid flap.



Figure 4: Recurrent BCC upper lip intraoperative and after excision and marking of the flaps design.

found that narrow-margin elliptical excision with margins up to 3 mm is only 80% effective in clearing these tumors [14]. In our study we used wider safety margin (5 mm) in 45 patients with different forms of basal cell carcinoma of the face and scalp, the wide safety margin does not affect the cosmetic appearance after excision of the Basal Cell Carcinoma but had reduced the recurrence rate and tumor infiltration to the resection margins to 0%. Also we used different reconstructive procedures according to the tissue availability (rhomboid and rotational flaps had the best cosmetic appearance while the results of island and advancement flaps was satisfactory).

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Figure 1: Intraoperative marking with 5 mm safety margin and the specimen after complete excision with safety margin.



Figure 2: Pigmented BCC left cheek and 6 months after excision and reconstruction by Rhomboid flap.

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