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The Psycho-social Impact of Facial Skin Cancers

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Presentation

This work has not been presented to any meeting at the date of submission of the manuscript.

Sir,

Skin malignancies are the most common cancers in humans, the majority of which are non-melanoma skin cancers. These have a relatively low morbidity and propensity to metastasize and are generally considered to have little impact on quality of life.[1] Complete surgical excision can often be achieved without leaving an extensive cosmetic or functional defect and is generally performed in a high-turnover, day case setting. Consequently patients with basal and early squamous cell carcinomas are rarely offered formal support or counselling.

However, since 80% of non-melanoma skin cancers occur in the head and neck region, both the skin cancer and the scars following surgical excision are frequently highly conspicuous. Minor as well as major degrees of facial disfigurement can result in high levels of anxiety, depression and social isolation, the severity of which often bears little relationship to the magnitude of the defect itself.[2] This study was designed to quantify the social, emotional and aesthetic impact of facial skin malignancies on patients before and after surgical excision.

Fifty three patients presenting to plastic surgery outpatients with a cutaneous malignancy located in the head and neck region were prospectively recruited. Structured questionnaires were used to obtain basic demographic and clinical data. The impact of the malignancy was assessed before and three months after surgery using the Skin Cancer Index (SCI).[3] This is a 15 item, validated, disease-specific quality of life (QOL) assessment tool which measures three distinct subscales: emotion, social and appearance. Standardised scores range from 0-100 with higher scores reflecting an improvement in QOL. Ethical approval for the project was granted by the Leeds East Research and Ethics Committee.

A power analysis was conducted to determine an adequate sample size. Mean SCI scores with standard deviations were calculated for total SCI and individual SCI subscales pre- and post- operatively and for the change between pre-operative and post-operative scores.

There were 29 (55%) men and 24 women recruited to the study. The majority were in the older age group with 70% patients aged 66 years or above. The predominant lesion excised

(62%) was basal cell carcinoma (BCC). Squamous cell carcinomas (SCCs) comprised 19% and the remaining patients had a diagnosis of melanoma (11%) or benign lesions (8%). Reconstruction following excision was by primary closure (28%), skin graft (53%) or local flap (19%).

Surgical excision led to a significant improvement in both the total SCI score (from 70.0 to 82.4, $p<0.001$) and in each of the individual subscale scores (Table 1). The greatest overall improvement was seen in the appearance subscale, from 68.7 to 85.2 ($p<0.001$). Patients with SCCs exhibited an improvement in total SCI score over 3 times greater than the corresponding improvement shown by patients with BCCs ($p=0.016$) (Table 2). Women had lower scores than men both pre- and post-operatively, but showed greater improvement than men in the emotional and appearance subscales (Table 2). Men showed greater improvement than women in the social sub-scale. None of the differences observed between genders achieved statistical significance. Patients with scar lengths over 50cm showed a greater change in the appearance subscale ($p=0.037$); not significant when corrected for multiple comparisons. Age and social isolation factors did not significantly affect total or sub-scale scores.

Morbidity assumes greater importance than mortality in many patients with cutaneous malignancies, making quality of life a more relevant endpoint in assessment of the disease process. Compared with other dermatological QOL tools the SCI captures issues specific to facial skin cancers such as scarring, disfigurement and concerns about possible recurrence. The individual subscales allow identification of anxieties related to self-image and social confidence as well as those directly related to cancer.

Consistently lower pre-operative SCI scores found in this study indicate the presence of anxiety among patients attending with suspicious skin lesions, despite the relatively indolent behaviour of their tumours. In our cohort this was more evident, although not significantly so, in female patients. In other malignancies, the early period surrounding diagnosis is widely

recognised to be the most stressful to patients.[4,5] The challenge raised here is to design support strategies appropriate to both a widely varying group of patients and to the high turnover setting in which they are managed. Self help leaflets, ready access to support organisations, the presence of a psychological specialist in the clinic setting and engaging friends or relatives in the support process are possible options to consider.

Overall the results of this study indicate that surgical excision improves social, emotional and cosmetic well being in patients with facial skin malignancies. This is likely to reflect reassurance experienced by the knowledge a lesion has been completely removed. Currently surgery remains the cornerstone of treatment for patients with cutaneous malignancies. As topical, non-surgical treatments continue to emerge as alternatives, further study in this area may serve as a useful indicator of the patients (rather than clinicians) preference.

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Conflict of Interest

None

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Table Legends

Table 1: Pre-and post operative mean (SD) SCI total and sub-scale scores and assessment of effect of surgery.

Table 2: Pre-and post operative mean (SD) SCI total and sub-scale scores partitioned by demographic and clinical factors.

Tables

Table 1: Pre-and post operative mean (SD) SCI total and sub-scale scores and assessment of effect of surgery

SCI scale	Pre-surgery mean (SD)	Post-surgery mean (SD)	Change mean (SD)	*p*-value
Total score	70.0 (25.3)	82.4 (18.4)	12.4 (17.4)	<0.001
Emotional score	66.6 (27.1)	77.6 (20.0)	11.0 (17.6)	<0.001
Social score	75.5 (28.3)	85.7 (23.1)	10.2 (26.3)	0.007
Appearance score	68.7 (34.3)	85.2 (23.1)	16.5 (27.7)	<0.001

Table 2: Pre-and post operative mean (SD) SCI total and sub-scale scores partitioned by demographic and clinical factors

SCI scale	Factor	Pre-surgery mean (SD)	Post-surgery mean (SD)	Change mean (SD)	p-value
Total score	Histology				
	BCC	74.8 (22.3)	81.9 (20.8)	7.1 (13.2)	
	SCC	59.8 (31.9)	83.0 (13.4)	23.2 (23.4)	0.016
	Gender				
	Male	76.2 (24.6)	89.0 (11.3)	12.8 (15.8)	
	Female	62.5 (24.5)	74.4 (22.1)	11.9 (19.5)	0.198
	Scar size				
	<10cm	62.9 (21.6)	71.7 (24.8)	8.7 (18.9)	
	11-30cm	68.8 (27.0)	83.6 (17.0)	14.9 (19.6)	
	31-50cm	82.7 (21.9)	87.0 (19.1)	4.3 (10.2)	
	>50cm	62.5 (29.0)	81.9 (15.9)	19.4 (14.8)	0.298
Emotional	Histology				
score	BCC	71.8 (25.4)	78.0 (21.0)	6.3 (13.7)	
	SCC	60.4 (28.3)	76.8 (17.1)	16.4 (20.4)	0.031
	Gender				
	Male	73.9 (24.9)	83.4 (16.9)	9.5 (14.5)	
	Female	57.9 (27.6)	70.7 (21.6)	12.8 (20.9)	0.124
	Scar size				
	<10cm	60.3 (27.2)	67.4 (27.0)	7.1 (6.6)	
	11-30cm	61.2 (26.5)	78.3 (19.9)	11.1 (19.1)	
	31-50cm	76.4 (26.1)	84.3 (17.7)	7.9 (16.7)	
	>50cm	60.1 (36.1)	77.4 (16.7)	17.3 (24.2)	0.847
Social score	Histology				

	BCC	79.2 (25.8)	83.3 (27.8)	4.1 (25.1)	
	SCC	61.0 (35.1)	88.0 (13.0)	27.0 (25.6)	0.053
	Gender				
	Male	77.4 (26.7)	90.7 (18.1)	13.3 (23.5)	
	Female	73.1 (30.5)	79.6 (27.1)	6.5 (29.4)	0.709
	Scar size				
	<10cm	72.5 (28.5)	76.3 (31.5)	3.8 (43.2)	
	11-30cm	71.5 (29.3)	85.9 (21.3)	14.4 (25.7)	
	31-50cm	84.5 (28.4)	88.5 (28.0)	4.0 (11.7)	
	>50cm	77.5 (29.8)	88.3 (13.3)	10.8 (25.6)	0.819
Appearance	Histology				
score	BCC	74.5 (31.7)	84.1 (26.5)	9.6 (25.3)	
	SCC	56.7 (38.8)	89.2 (14.2)	32.5 (32.7)	0.038
	Gender				
	Male	79.6 (30.6)	94.0 (10.7)	14.4 (22.6)	
	Female	55.6 (34.5)	74.7 (29.3)	19.1 (33.1)	0.116
	Scar size				
	<10cm	53.1 (32.4)	73.9 (24.2)	20.8 (28.5)	
	11-30cm	67.9 (36.5)	86.7 (23.7)	18.8 (28.4)	
	31-50cm	94.2 (8.8)	90.8 (23.7)	-3.3 (18.5)	
	>50cm	43.1 (31.4)	81.9 (22.0)	38.9 (18.0)	0.037