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Original Research Article

Analysis of Quality of Life of skin cancer patients from a tertiary care teaching institution

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Abstract: Though national surveys and cross-country data in India are unavailable, there are indirect indications from several smaller reports that Nonmelanoma skin cancer may be on the rise in India. The aim of this study was to analyze the Quality of Life of skin cancer patients. Retrospective cohort of patients operated for non-melanoma skin cancer in last 1 year and paid postoperative 4-month visit formed the study population. Inclusion criteria consisted of subjects operated for non-melanoma skin cancer and paid follow up visits having sufficient physical and mental capacity. 26 subjects fulfilled the selection criteria laid down thus included in this study. Study tools were records of patients, which were obtained from Medical Records Section. If any more information was required, study subjects were contacted. Out of total 26 study subjects, Basal cell carcinomas were found in 96.15% (n=25); squamous cell carcinoma was detected in 3.85% (n=1). Single location wise more lesions were located on the nose 12.77% (n=6) and forehead 8.51% (n=4). For most patients (69.23%), the lesion had not been previously treated. 57.69% subjects did not had any other associated co-morbid condition. Paired sample t-tests revealed a significant effect on DLQI item 1 (p=0.007), item 2 (p=0.042), and item 4 (p=0.002), with scores decreasing (improving QOL) after treatment. The change in total DLQI score demonstrated a trend toward significance, with overall QOL improving after treatment (p=0.038). Formerly commonly used dermatological Quality of life tools revealed minimal handicap at initial diagnosis and slight change after treatment of nonmelanoma skin cancer. Although the associations were uncertain, improvement in some aspects of well-being after treatment of nonmelanoma skin cancer was demonstrated.
Keywords: Quality of Life, Skin cancer, Patients, Surgery

INTRODUCTION

Quality of life (QoL) is a broad term that involves issues such as social well-being, health and the insertion of the individual in the family and in society, among others [1, 2]. The expression "quality of life" was defined by the World Health Organization's Quality of Life Group as: "an individual's perception of their position in life in the context of the culture and value system where they live, and in relation to their goals, expectations, standards and concerns"[3,4].

Though national surveys and cross-country data in India are unavailable, there are indirect indications from several smaller reports that Nonmelanoma skin cancer (NMSC) may be on the rise in India [5]. Non-melanoma skin cancer infrequently poses a mortality risk; it never the less has the capacity to exert a detrimental effect on an individual's quality of life (QOL) [6]. The impact on QOL comes from the tumour itself, from the intervention and from the sequelae after the treatment. QOL has been identified as an important outcome in cancer research. In particular, cancer has been associated with a variety of negative psychologic sequelae such as depression, anxiety, and vulnerability [7, 8]. Although NMSC is usually not life threatening, the disease may impact importantly on self and body image because of involvement of the largest body organ and the one most visually conspicuous to self and others.

Paucity of literature on Quality of life of a common malignancy among humans, nonmelanoma skin cancer warrants this study. Therefore aim of the present study was to study the Quality of Life of skin cancer patients.

MATERIALS AND METHODS

This study was conducted by the Department of Dermatology in collaboration with Department of General Medicine and Community Medicine of a

tertiary care teaching institution. Retrospective cohort of patients operated for non-melanoma skin cancer in last 1 year and paid postoperative 4-month visit formed the study population. For the purpose of this study, high-risk non-melanoma skin cancer was defined by any of the following criteria: tumors with a diameter of >2 cm, tumors of long standing duration, tumors with a diffuse histologic growth pattern, recurrent tumors, tumors arising within the H-zone or in patients with hereditary syndromes or significant immune-suppression, or tumors with evidence of perineural spread.

Inclusion criteria consisted of subjects operated for non-melanoma skin cancer and paid follow up visits having sufficient physical and mental capacity. Exclusion criteria were pregnant women, widow and menopausal women, women who stopped using FP because their husbands were working abroad and women who have undergone hysterectomy. Patients diagnosed with psychiatric illnesses, other disabling chronic medical illnesses viz. rheumatoid arthritis, stroke, renal failure, or cognitive impairment was also excluded from this study. A total of 26 subjects fulfilled the selection criteria laid down thus included in this study. Study tools were records of patients, which were obtained from Medical Records Section. If any more information was required, study subjects were contacted.

Study tool, DLQI is a previously validated health-related Quality of Life tool that has been applied to study a variety of dermatologic disorders [9-11]. The instrument consists of 10 items measuring QOL from the perspective of dermatologic problems within the last week. Responses are scored on a scale of 0 (not at all) to 3 (very much), with higher scores reflecting greater perceived impairment. A proforma was devised to capture relevant details. Data was captured regarding socio-demographic profile and clinical information.

Informed consent was obtained from patients after discussion of the advantages and risks. All the questionnaires were manually checked and edited for completeness and consistency and were then coded for computer entry. After compilation of collected data, analysis was done. Paired sample t-test was employed to test pre and post surgery scores. The results were expressed using appropriate statistical methods.

RESULTS

Out of total 26 study subjects, Basal cell carcinomas were found in 96.15% (n=25); squamous cell carcinoma was detected in 3.85% (n=1). Single location wise more lesions were located on the nose 12.77% (n=6) and forehead 8.51% (n=4). For most patients (69.23%), the lesion had not been previously treated. 57.69% subjects did not have any other associated co-morbid condition. (Table 1)

Table-1: Baseline characteristics of study subjects

Variables		**N**	**Percentage**
Age	Mean age = 59.25 ± 15.2 years, Median age = 60 years		
Sex	Male	11	42.31
	Female	15	57.69
Marital Status	Unmarried	2	7.69
	Married	24	92.31
Histology of lesion	Basal	25	96.15
	Squamous	1	3.85
	Other	0	0
***Location of lesion**	Nose	6	12.77
	Lips	4	8.51
	Forehead	4	8.51
	Temple	2	4.25
	Others	6	12.77
	H-zone location	18	38.30
	Functional area involvement	7	14.89
Previous treatment	None	18	69.23
	Same site/Recurrent	7	26.92
	Other site	1	3.85
Co-morbid conditions	None	15	57.69
	One or more	11	42.31
*A few patients had more than one lesion; the percentage was computed using 47 as denominator.			

Lower mean values were observed post-operative i.e. lower DLQI scores were recorded 4 months after surgery in our study which indicates that adverse effects were not very prominent thus preserving quality of life post operatively. Comparison of pre and post surgery DLQI scores revealed that there were no

significant changes in the items scores over time with the exception of items 1 and 4. Paired sample t-tests revealed a significant effect on DLQI item 1 (p=0.007), item 2 (p=0.042), and item 4 (p=0.002), with scores decreasing (improving QOL) after treatment. The change in total DLQI score demonstrated a trend toward significance, with overall QOL improving after treatment (p=0.038). (Table 2)

Table-2: Pre and post surgery DLQI scores among study subjects

DLQI Item Number	Pre surgery	Post 4 Months	p Value*
	Mean ± SD	Mean ± SD	
1	0.63 ± 0.5	0.42 ± 0.7	0.007
2	0.51 ± 0.4	0.37 ± 0.5	0.042
3	0.14 ± 0.3	0.13 ± 0.4	0.580
4	0.32 ± 0.7	0.11 ± 0.2	0.002
5	0.24 ± 0.4	0.10 ± 0.2	0.351
6	0.15 ± 0.3	0.14 ± 0.3	0.753
7	0.07 ± 0.2	0.08 ± 0.2	0.961
8	0.10 ±0.3	0.09 ± 0.2	0.595
9	0.03 ± 0.1	0.10 ± 0.4	0.682
10	0.13 ± 0.3	0.12 ± 0.2	0.846
Total	2.35 ± 2.9	1.74 ± 3.3	0.038
*Paired sample t-test, Significant p<0.05, Highly significant p<0.001			

DISCUSSION

In this study we investigated Quality of life of non-melanoma skin cancer patients after surgery using Dermatology Life Quality Index inventory. Most NMSC are treated with surgery, disrupting the normal activities of daily living, and have a financial impact, and repeated treatments may be needed in the setting of incomplete surgical margins or recurrence. Following treatment, there are cosmetic and functional sequelae from scarring that can affect psychosocial function and patients often develop further NMSC, com- pounding the insult [12].Over the past 20 years several studies have attempted to capture the impact of NMSC on an individual's QOL, identifying physical deformity, cosmesis and psychosocial function as important domains affected [13,14]. QOL questionnaires have been used as an evaluation tool to quantify a particular health problem as well as utility weightings that quantify a preference for a particular health outcome [15].

Depending on various patient-related factors, the potential morbidity after treatment of NMSC is widely variable. Other potential negative effects may be related to degree of disfigurement or scarring, which may have ramifications from a psychosocial, marital, sexual, or medical personnel interaction standpoint [16]. Unlike other malignancies, the subject of skin cancer has not been well investigated in terms of patient QOL assessment [11]. Our previous study using the general QOL instruments, SF-36 and FACT-G, had demonstrated minimal impact of NMSC on patients at initial diagnosis.

We observed that basal cell carcinomas were found in 96.15% (n=25); squamous cell carcinoma was detected in 3.85% (n=1). Single location wise more lesions were located on the nose 12.77% (n=6) and forehead 8.51% (n=4). For most patients (69.23%), the lesion had not been previously treated. 57.69% subjects did not have any other associated co-morbid condition. The result of this study is in agreement with previous study by Rhee [17].

In the current study, comparison of pre and post surgery DLQI scores revealed that there were no significant changes in the items scores over time with the exception of items 1 and 4. Paired sample t-tests revealed a significant effect on DLQI item 1 (p=0.007), item 2 (p=0.042), and item 4 (p=0.002), with scores decreasing (improving QOL) after treatment.

Regarding strengths and weakness of this study, this study has several strengths. First, to our knowledge, nonmelanoma skin cancer has been studied poorly with regard to Quality of life of these patients. Quality of life has been identified as an important outcome in cancer researches yet the most common malignancy among humans, nonmelanoma skin cancer, but poorly studied. Second, due attention was paid to ensure the standardization of data collection. The study has some limitations as well. First, our cohort consisted entirely of Indian subjects; further studies are warranted with inclusion of other ethnic groups. Second, cultural influences on aesthetics may impact patient's perception of the illness and treatment. This aspect was ignored in this survey. On the other hand, no attempt was made to select patients with more advanced disease or difficult clinical situations. Future multicenter studies with bigger sample size are warranted.

CONCLUSIONS

We conclude that formerly commonly used dermatological Quality of life tools revealed minimal handicap at initial diagnosis and slight change after treatment of nonmelanoma skin cancer. Although the

associations were uncertain, improvement in some aspects of well-being after treatment of nonmelanoma skin cancer was demonstrated. Development of disease-specific instrument is necessary to explore the disease process.

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