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Patient-Reported Outcomes and Factors Associated With Patient Satisfaction After Surgical Treatment of Facial Nonmelanoma Skin Cancer

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This study measures patient-reported outcomes and identifies factors associated with patient satisfaction after excision of facial nonmelanoma skin cancer in the veteran population.

Nonmelanoma skin cancer is the most common malignant neoplasm in the United States.[1] Sun-exposed areas such as the face are the areas most often affected by nonmelanoma skin cancer.[2] After biopsy confirmation of nonmelanoma skin cancer, the recommended treatment is complete surgical excision. Studies show that facial skin cancers and associated scarring significantly affect psychological morbidity.[3,4] As emphasis on patient satisfaction continues to increase, it is critical to understand what influences patient perception of care received and outcomes.

The FACE-Q is a validated, patient-reported outcome instrument used to quantify health-related quality of life after facial surgery.[5] The Skin Cancer Module within the FACE-Q evaluates variables related to facial skin cancers. The purpose of this study was to measure patient-reported outcomes and identify factors associated with patient satisfaction after excision of facial nonmelanoma skin cancer in the veteran population.

Methods

A database was created of patients undergoing excision of primary, biopsy-proven, facial nonmelanoma skin cancer from March 23 to June 15, 2017, at the Richard L. Roudebush Veterans Affairs Medical Center, Indianapolis, Indiana. All patients were invited to complete a preoperative FACE-Q Skin Cancer Module. Patients then underwent standard surgical excision of their lesions under local anesthesia in a minor procedure room. Participants were sent additional surveys at 1 and 6 months after the procedure. Roudebush Veterans Affairs Medical Center Institutional Review Board granted approval of this study. Participants provided written consent.

Data from the FACE-Q were converted into an equivalent Rasch transformed score using the FACE-Q Skin Cancer Module conversion tables. Variables, including patient and tumor characteristics, type of procedure, and postoperative complications, were collected from patient medical records. Statistical analysis was performed in SPSS (SPSS Inc). One-way analysis of variance was used to compare means. All P values were from 1-sided tests and results were deemed statistically significant at $P \leq .05$.

Results

A total of 52 patients underwent excision of 56 facial nonmelanoma skin cancers during the study period. Thirty patients completed the FACE-Q preoperatively; 18 patients (60%) returned the 1-month postoperative survey, and 13 patients (43%) completed the 6-month postoperative survey. For the 30 patients who completed the FACE-Q, mean age at surgery was 74.5 years (range, 36.0-92.0 years) and most patients were male (28 [93%]). Twenty-three of 34 lesions (68%) were basal cell carcinoma and 11 of 34 lesions (32%) were squamous cell carcinoma. The most common location of nonmelanoma skin cancer was the cheek (12 of 34 [35%]), followed by the temple (9 of 34 [27%]), forehead (6 of 34 [18%]), chin (3 of 34 [9%]), and nose (2 of 34 [6%]). Mean maximum lesion dimension was 15.8 mm (range, 3-36 mm). Most excision defects were closed primarily (32 of 34 [94%]); full-thickness skin grafts were used for 2 lesions (2 of 34 [6%]). Three patients had minor postoperative complications: 1 hematoma, treated with incision and drainage, and 2 wound dehiscences, treated with local wound care.

Results from the FACE-Q surveys are shown in the Table. Overall, both before and after surgery, veterans were satisfied with their facial appearance (from a mean preoperative score of 75 to mean postoperative scores of 72 at 1 month and 74 at 6 months), were not bothered by scars (from a mean preoperative score of 75 to mean postoperative scores of 65 at 1 month and 75 at 6 months), and had low levels of appearance-

related psychosocial distress (from a mean preoperative score of 25 to mean postoperative scores of 28 at 1 month and 20 at 6 months), both before and after surgery. Patients tended to be happier with their appearance postoperatively and more satisfied with their scars over time. Veterans were pleased with the care and information they received. The mean score regarding worry about cancer decreased after excision (from a mean preoperative score of 50 to mean postoperative scores of 42 at 1 month and 47 at 6 months). Adverse events related to the facial skin cancer, including bleeding, itching, and pain, decreased after excision. Sun protection behaviors, such as the use of sunscreen, hats, and protective clothing, improved after diagnosis of cancer.

Discussion

To our knowledge, this is the first study to use the FACE-Q to analyze the outcome of facial skin cancer surgery from veterans' perspective. Facial appearance plays a significant role in social interactions and skin cancer diagnoses distress patients.[6] By quantifying patient satisfaction and aspects of health-related quality of life, the FACE-Q Skin Cancer Module supports quality metrics and targets areas for improvement in the treatment of nonmelanoma skin cancer. Our study population was predominantly elderly men, but we found that participants were satisfied with their outcome and care received, had low levels of psychosocial distress and worry about cancer, and showed improved sun protection behaviors after cancer treatment.

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Figures and Tables

Table.

Mean FACE-Q Scores

FACE-Q Category	Scale	Preoperative Score	Postoperative Score		*P* Value
			1 mo	6 mo	
Satisfaction with facial appearance	0-100	71	72	74	.50
Appraisal of scars	0-100	75	65	75	<.001
Satisfaction with information					
Appearance	0-100	70	75	80	<.001
Physician	0-100	92	86	77	<.001
Office staff	0-100	100	92	92	<.001
Medical team	0-100	100	92	86	<.001
Overall	0-100	100	100	90	<.001
Cancer worry	0-100	50	42	47	.01
Psychosocial distress	0-100	25	28	20	.13
Adverse events	10-40	13.9	13.0	13.0	<.001
Sun protection behavior	5-20	13.1	14.8	15.7	.35