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Patient-reported adverse effects after facial skin cancer surgery: Long-term data to inform counseling and expectations

To the Editor: The majority of outcomes data after dermatologic surgery are limited to physician-reported adverse effects in the short-term postoperative period. However, symptoms might persist for some patients, which can influence their perception about healing. Our goal was to characterize long-term patient-reported symptoms after facial skin cancer surgery.

A cross-sectional study was performed with patients ≥21 years of age who underwent facial skin cancer surgery during March 1, 2016-March 31, 2018. We administered the FACE-Q Skin Cancer Adverse Effects Checklist,[1,2] which addresses postoperative symptoms of pain, discomfort, sensitivity, numbness, tingling, tightness, itchiness, swelling, bruising, and difficulty with facial movements. Frequencies were calculated as the number of patients who reported a symptom during the specified time point; responses other than not at all were counted as a report of the corresponding symptom. Electronic medical records were reviewed to collect treatment information. Patient and surgical characteristics were evaluated by using descriptive statistics.

In total, 396 of 1049 eligible patients completed the questionnaire (response rate 37.8%). Responses were categorized on the basis of time between surgery date and survey completion: <6 months (average 15.7 ± 8.0 weeks), 6 months to <1 year (average 38.0 ± 8.3 weeks), and ≥1 year (average 84.7 ± 23.1 weeks). Patient demographics, tumor type, tumor location, and repair type are shown in Table I. The average age of survey responders was 65.6 ± 11.9 years; 51.0% (n = 202) were men, and 49.0% (n = 194) were women. The average age of survey nonresponders was 65.1 ± 13.8 years; 55.2% (n = 360) were men, and 44.8% (n = 293) were women. Demographic characteristics of responders were similar to nonresponders. Overall, frequency of postoperative symptoms was low (range 2.3%-43.4%) (Fig 1). The frequency of sensitivity, numbness, and tightness was highest <6 months and ≥1 year after surgery. Among repair types, flap or graft repair was associated with the highest frequency of symptoms, particularly numbness, tingling, tightness, and itchiness, ≥1 year after surgery. Among anatomic surgical sites, lip location was associated with highest frequency of symptoms, particularly numbness, tingling, and difficulty with facial movements, ≥1 year after surgery.

Although postoperative complications occur in <1% of cases of cutaneous oncologic surgery,[3] patients experience a range of symptoms after surgery. Although patients often experience pain in the short-term postoperative period,[4] milder symptoms, such as numbness, sensitivity, and tightness, are more common in the long term; the face is the most pressure-sensitive area of the body,[5] which might contribute to these findings. Similar to previous studies,[4] patients who underwent graft or flap repair reported the most symptoms. Those who underwent surgery on the lip reported more long-term symptoms and experienced a greater quality-of-life impact (ie, eating, speaking, and social interactions) after surgery compared with other locations.

Table I. Characteristics of study patients (n = 396), by postoperative period

Characteristic	Postoperative period		
	<6 months	6 months to <1 year	≥1 year
Demographic factors, n (%)			
Male	38 (46.9)	47 (48.0)	125 (58.1)
Female	43 (53.1)	51 (52.0)	90 (41.9)
White race, n (%)	79 (97.5)	92 (93.9)	207 (96.3)
Age, y, mean ± standard deviation	67.0 ± 10.5	66.3 ± 12.1	64.9 ± 12.3
Skin cancer type, n (%)			
Basal cell carcinoma	50 (61.7)	66 (67.3)	126 (58.6)
Squamous cell carcinoma	12 (14.8)	15 (15.3)	45 (20.9)
Invasive melanoma	2 (2.5)	4 (4.1)	16 (7.4)
Melanoma in situ	16 (19.8)	11 (11.2)	23 (10.7)
Other	1 (1.2)	2 (2.0)	5 (2.3)
Wound healing type, n (%)			
Second intention	9 (11.1)	8 (8.2)	17 (7.9)
Primary closure	39 (48.1)	54 (55.1)	116 (54.0)
Flap	18 (22.2)	26 (26.5)	63 (29.3)
Graft	15 (18.5)	10 (10.2)	19 (8.8)
Anatomic location of surgery, n (%)			
Forehead or eyebrow	11 (13.6)	16 (16.3)	31 (14.4)
Temple	7 (8.6)	8 (8.2)	19 (8.8)
Eyelid	3 (3.7)	6 (6.1)	11 (5.1)
Cheek	21 (25.9)	32 (32.7)	57 (26.5)
Nose	25 (30.9)	22 (22.4)	57 (26.5)
Lip or chin	5 (6.2)	10 (10.2)	22 (10.2)
Ear	9 (11.1)	4 (4.1)	18 (8.4)

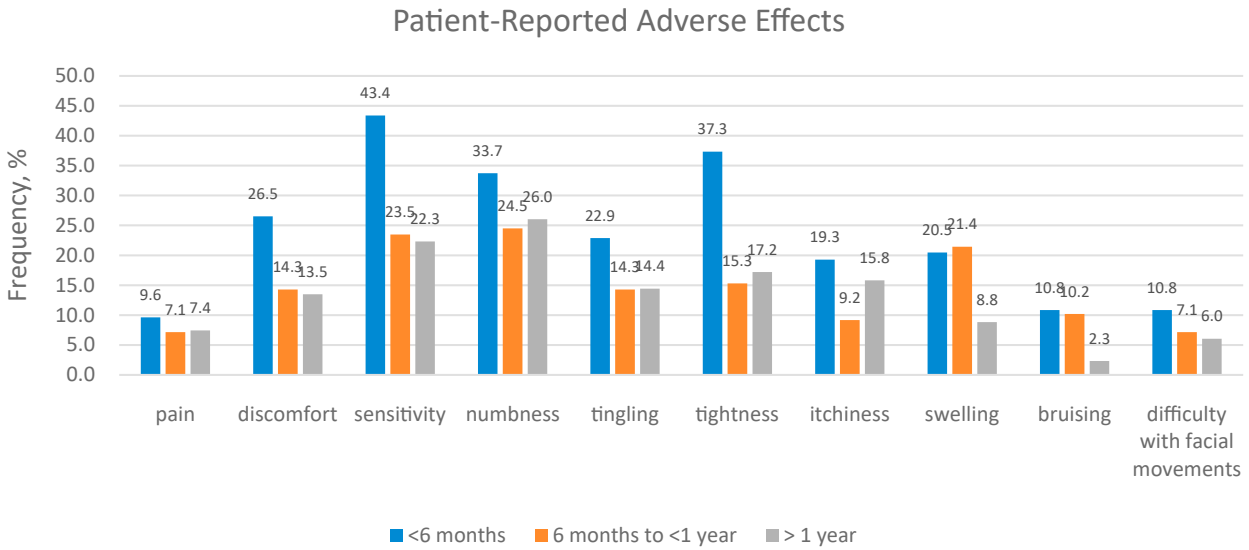

Fig 1. Patient-reported frequencies (%) of adverse effects <6 months, 6 months to <1 year, and ≥1 year after surgery.

Limitations include a primarily white study population, cross-sectional design, and the possibility of response bias. Longitudinal studies, including a larger, more diverse population, would better characterize symptoms over time. Nonetheless, this patient-reported data can help physicians counsel patients regarding the potential for long-term postoperative symptoms and help patients manage expectations accordingly.

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Darier disease is associated with type 1 diabetes: Findings from a population-based cohort study

To the Editor: Endoplasmic reticulum (ER) protein folding requires balanced Ca^{2+} levels, disruptions of which lead to ER stress and cellular dysfunction or death.[1] SERCA2 (sarco/ER-Ca^{2+}- adenosinetriphosphatase 2) pumps Ca^{2+} into the ER and regulates Ca^{2+} homeostasis. Previous studies implicate ER stress and SERCA2 dysfunction in diabetes; for example, SERCA2 is reduced in mouse type 1 diabetes (T1D) β-cells. Meanwhile, the impact of SERCA2 dysfunction on humans remains largely unknown.

Darier disease (DD) is caused by mutations in the ATPase sarcoplasmic/ER Ca2+ transporting 2 (*ATP2A2*) gene encoding SERCA2, which causes Ca^{2+} dyshomeostais and ER stress. Thus, DD enables the study of the impact of SERCA2 dysfunction in vivo in humans. In this study we examined the potential association of DD with diabetes at the population level.

We conducted a cohort study based on linkage between Swedish national registers. The study was reviewed and approved by the Stockholm Regional Ethics Committee. The Total Population Register contains demographic information on all individuals registered as Swedish inhabitants since 1968. The National Patient Register[2] contains discharge diagnoses for inpatient care since 1973 and for outpatient care since 2001.

DD was defined by codes according to International Classification of Diseases (ICD), Ninth Revision (75.7D) or ICD Tenth Revision (ICD-10) (Q82.8E). Each individual with DD was matched with up to 100 randomly selected comparison individuals. Matching variables were birth year, sex, and county of residence at the time of the first diagnoses in the DD index individual. Of 788 individuals with DD, 770 (97.7%) were used in the analyses, and the remaining 18 were excluded due to emigration. T1D was defined by the ICD-10 code E10, and type 2 diabetes was defined the ICD-10 code E11. Odds ratios were estimated with conditional logistic regressions in SAS 9.3 software (SAS Institute, Cary, NC). In this study design, odds ratios can be regarded as risk ratios due to the incidence density sampling.

Results showed that individuals with DD had an elevated risk of being diagnosed with T1D (risk ratio, 1.74; 95% confidence interval, 1.13-2.69), but there was less evidence for an increased risk of type 2 diabetes (risk ratio, 0.88; 95% confidence interval, 0.37-1.36) (Table I). Genetic susceptibility to T1D is primarily associated with immunity genes, and most risk genes display odds ratios well below 1.5.[3] A complete understanding of the genetic etiology of T1D is lacking today, especially regarding nonimmunity-related genes. Because most of the DD patients have mutations in *ATP2A2*, it is likely that the increased risk is indeed caused by *ATP2A2* mutations and SERCA2 dysfunction. However, we cannot rule out the possibility of confounding factors, such as skin disease in general, predisposing to T1D. We find this unlikely, however, because the