Table I. Patient characteristics

Variable	RTX treatment PV		RTX treatment, PF		No RTX treatment,
	No LON (n = 89)	LON (n = 3)	No LON (n = 23)	LON (n = 2)	PV (n = 10) and PF (n = 5)
Age, mean (range), y	56 (21-87)	57 (37-59)	62 (23-77)	72 (68-75)	67 (37-87)
Sex, No.					
Female	48	2	10	2	9
Male	41	1	13	0	6
Rituximab, No.					
1 cycle	51	1	12	1	
2 cycles	19		8		
≥3 cycles	19	2	3	1	
Concurrent immunosuppression, No.	75	2	22	2	15
Azathioprine	30	1	9	1	8
Mycophenolate mofetil	34		12	1	5
Mycophenole sodium	7				2
Other	5	1	4		
None	14	1	1		

LON, Late-onset neutropenia; PF, pemphigus foliaceus; PV, pemphigus vulgaris; RTX, rituximab.

was short-lived. Given the limited data available, it is also difficult to determine whether LON in patients with pemphigus treated with rituximab is more common when additional immunosuppressive agents are used, and if so, by which agents in particular; nevertheless, occurring in only 6 of 209 rituximab cycles (2.8%). Rituximab-associated LON in pemphigus seems to be relatively rare.

Limitations of this analysis are the retrospective and single-center design. Collectively, our analysis reassuringly points toward a low prevalence of LON in patients with pemphigus treated with rituximab.

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## REFERENCES

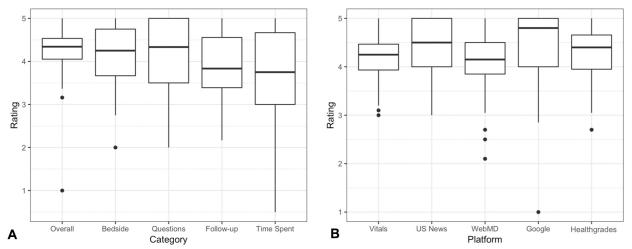
- 1. Schmidt E, Kasperkiewicz M, Joly P. Pemphigus. Lancet. 2019; 394:882-894.
- 2. Joly P, Maho-Vaillant M, Prost-Squarcioni C, et al. First-line rituximab combined with short-term prednisone versus prednisone alone for the treatment of pemphigus (Ritux 3): prospective, multicentre, parallel-group, open-label randomised trial. Lancet. 2017;389:2031-2040.
- 3. Wolach O, Bairey O, Lahav M. Late-onset neutropenia after rituximab treatment: case series and comprehensive review of the literature. Medicine. 2010;89:308-318.
- 4. Parodis I, Soder F, Faustini F, et al. Rituximab-mediated late-onset neutropenia in systemic lupus erythematosus-distinct roles of BAFF and APRIL. Lupus. 2018;27:1470-1478.
- 5. Schultz B, Culton D. A case of late-onset neutropenia secondary to rituximab in a patient with mucous membrane pemphigoid. JAAD Case Rep. 2019;5:715-719.

https://doi.org/10.1016/j.jaad.2020.05.076

## Factors impacting patient ratings of Mohs micrographic surgeons: Lessons gleaned from analysis of 17,527 online reviews



To the Editor: Although patient satisfaction with Mohs micrographic surgery is high, insufficient data exist regarding factors affecting patient satisfaction.<sup>2,3</sup> We analyzed online reviews of 195 attending Mohs micrographic surgeons at all of the 72 American College of Mohs Surgery fellowship programs in the United States and Canada to determine the most discussed elements of care.



**Fig 1.** Box plot comparisons of the quantitative ratings. **A**, Comparison of scores across category. Scores for overall rating and bedside manner are significantly higher than after-care follow-up and time spent with patients. The ratings for answered questions were significantly higher than that for time spent with patients across all geographic regions. **B**, Comparison of overall ratings between online platforms. U.S. News & World Report was significantly higher than WebMD, Healthgrades, and Vitals. Google reviews were significantly higher than Vitals and WebMD. The *borizontal line* in the middle of each box indicates the median; the *top and bottom borders* of the box mark the 75th and 25th percentiles, respectively; the vertical lines mark the 90th and 10th percentiles, and the black circles are outliers.

The search was conducted between November 25, 2019 and December 8, 2019 using Vitals, U.S. News & World Report, WebMD, Google Reviews, and Healthgrades. Given potential regional differences, programs were grouped in geographic the regions of South, Midwest, East Coast (includes programs in Canada), and West Coast. Five quantitative categories were assessed: overall rating, bedside manner, answered questions, after-care follow-up, and time spent with patients.

Each qualitative comment was attributed to at least 1 of 5 positive or negative categories agreed upon by investigators: bedside manner, perceived experience, communication, scar, and postoperative experience. Reviews that fit more than 2 categories were counted as individual comments. Comments were coded by 2 investigators (C.E., M.T.) to ensure internal validity with 96% inter-rater agreement (95% confidence interval [CI], 95.9%-96.9%).

Statistical analysis was conducted using RStudio 4.3.1 software (RStudio, Boston, MA). Repeated-measure analysis of variance compared mean scores across the quantitative categories. Post hoc pairwise comparisons were conducted using paired t tests with the Bonferroni correction. The Kruskal-Wallis test assessed regional differences in ratings. Post hoc pairwise comparison was conducted using the Wilcoxon rank sum test with the Bonferroni correction. The mean percentage of comments among total comments with 95% CIs was reported.

Quantitative reviews of Mohs micrographic surgeons totaled 12,272 ratings, consisting of 3073 on Vitals, 4524 on U.S. News & World Report, 2144 on WebMD, 575 on Google, and 1956 on Healthgrades. Online ratings were available for 187 of 195 physicians (96%). There was a significant difference between mean scores across quantitative categories (P = .0005). Average overall (4.34; SD, 0.55) and bedside manner (4.16; SD, 0.70) ratings were higher than after-care follow-up (3.83; SD, 1.67; adjusted P = .01 and P = .002) and time spent with patients (3.65; SD, 1.12; adjusted P = .003 and P = .016, respectively) ratings (Fig 1, A). The rating for answered questions (4.18; SD, 0.87) was higher than for time spent with patients (adjusted P = .019). There was no regional difference in the overall ratings (P = .2967; data not shown). Overall ratings differed between platforms (P = .0005), with higher ratings on U.S. News & World Report (4.55; SD, 0.47) than on WebMD (4.09; SD, 0.61; adjusted P < .0001), Healthgrades (4.26; SD, 0.57; adjusted P = .0009), and Vitals (4.18; SD, 0.45; adjusted P < .0001) (Fig 1, B).

Among 5255 written comments, 4567 were positive (87%) and 688 were negative (13%). Most discussed perceived experience (50.2%; 95% CI, 49%-52%) and bedside manner (33.2%; 95% CI, 32%-34%), highlighting their importance to a reported positive experience. Scar (6.6%; 95% CI, 6.0%-7.3%), communication (7.3%; 95% CI,

6.6%-8.0%), and postoperative experience (2.8%; 95% CI, 2.4%-3.3%) were less frequently mentioned. Negative comments regarding scar primarily focused on concern that excess tissue was taken. Additional concerns included length, shape, or texture. Perceived experience comments more frequently pertained to physicians than staff (72% vs 23%, with 5% unspecified).

The study has several limitations. We could not confirm that reviewers interacted with the reviewed surgeon. Each review could be counted as multiple comments, so they were not independent. Patients who undergo Mohs micrographic surgery may be less technologically inclined and less likely to complete online reviews. Despite these limitations, we reported on more than 12,000 quantitative and 5000 qualitative reviews to identify the most important factors influencing patient satisfaction after Mohs micrographic surgery.

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## REFERENCES

- Xu S, Atanelov Z, Bhatia AC. Online patient-reported reviews of Mohs micrographic surgery: qualitative analysis of positive and negative experiences. *Cutis*. 2017;99:E25-E29.
- Gao GG, McCullough JS, Agarwal R, et al. A changing landscape of physician quality reporting: analysis of patients' online ratings of their physicians over a 5-year period. J Med Internet Res. 2012;14:e38.
- Lagu T, Hannon NS, Rothberg MB, et al. Patients' evaluations of health care providers in the era of social networking: an analysis of physician-rating websites. J Gen Intern Med. 2010;25:942-946.

## Epidemiology, treatment, survival, and prognostic factors of cutaneous mucoepidermoid carcinoma: A distinct entity with an indolent clinical course



To the Editor: Primary cutaneous mucoepidermoid carcinoma (cMEC) is a rare neoplasm with mucussecreting and epidermoid cells on histology. 1 Its etiopathology remains unclear, and it is postulated to arise de novo or from pre-existing nevus sebaceous, sweat glands, or ectopic salivary glands.<sup>2</sup> Clinically, cMEC may mimic basal cell carcinoma, particularly if ulcerated, and dermatologists must first rule out metastatic disease, salivary origin, and distinguish cMEC from the more aggressive cutaneous adenosquamous carcinoma. Current literature on cMEC is limited to case reports and single-institution studies. Given the rarity of this tumor, lack of established treatment guidelines, and uncertain aggressiveness, which may be partly due to misdiagnosis as cutaneous adenosquamous carcinoma, an in-depth national study can better characterize pertinent epidemiologic and prognostic factors associated with cMEC.

After approval by the Yale Human Investigation Committee, and with adherence to Strengthening the Reporting of OBservational studies in Epidemiology (STROBE) guidelines, data on patients with a diagnosis of primary cMEC (histology code 8430/3) were obtained from the Surveillance, Epidemiology, and End Results database for the years 1973 to 2016. Data were collated and analyzed as reported previously.<sup>3</sup>

A total of 89 patients with cMEC were identified. Most cases occurred in individuals of white race (80.0%), with a slight preponderance of males (55.1%), and mean age of diagnosis of 63.4 years (range, 23-94 years). Most patients (68.6%) presented with local (stage I) disease and with low grade lesions (75.5%). The most frequent site of presentation was the face (84.3%). Surgery was performed in 81.8% of patients. Detailed descriptive statistics are provided in the Supplemental material (available via Mendeley at https://doi.org/10.17632/3gg58dntvd.1).

Patients with cMEC had a 5-year overall survival (OS) of 68.2% as defined by vital status and disease-specific survival (DSS) of 76.0% as defined by censoring deaths attributable to other causes (Fig 1). Predictors of survival on univariate analysis included older age (shorter OS and DSS), high lesion grade (shorter OS), face as the lesion site (longer OS and DSS), and surgical resection (longer OS and DSS). In risk-adjusted models, independent