3. US Department of Veterans Affairs. *172VA10P2: VHA Corporate Data Warehouse*; 2014. https://www.federalregister.gov/documents/2014/01/27/2014-01497/privacy-act-of-1974. Accessed November 2, 2018.
4. Goffman RM, Harris SL, May JH, et al. Modeling patient no-show history and predicting future outpatient appointment behavior in the Veterans Health Administration. *Mil Med*. 2017;182(5):e1708-e1714.
5. Torres O, Rothberg MB, Garb J, Ogunneye O, Onyema J, Higgins T. Risk factor model to predict a missed clinic appointment in an urban, academic, and underserved setting. *Popul Health Manag*. 2015;18(2):131-136.

https://doi.org/10.1016/j.jaad.2019.05.026

Management of localized Merkel cell carcinoma at high-volume facilities is associated with improved survival

To the Editor: Merkel cell carcinoma (MCC) is a rare, aggressive malignancy that is at high risk for regional lymph node and distant metastases. In the United States, the aging population is driving brisk increases in its incidence.[1] MCC is often first evident as an indurated, painless, red-blue or skin-colored nodule. Its diagnosis is often challenging because it clinically resembles benign neoplasms such as lipomas or epidermal cysts.

Owing to its low incidence, most management recommendations are based on retrospective reviews, case series, and expert opinions.[2] Prompt diagnosis, effective management, and adherence to the limited evidence-based guidelines are imperative in patient care, although not necessarily equal among institutions. In this short analysis, we evaluated the relationship between facility case volume of localized MCC and overall survival.

The National Cancer Database (NCDB) was queried for all patients with cutaneous MCC from 2004 to 2015. NCDB is a database sourced from United States academic hospitals, Veterans Health Administration facilities, and community centers and collects approximately 70% of cancer diagnoses annually. We excluded patients with no histologic confirmation, missing American Joint Committee on Cancer staging data (Sixth and Seventh editions), undergoing palliative care, diagnosed at autopsy, showing evidence of lymph node extension, of American Joint Committee on Cancer stage III/IV, or with multiple prior cancer diagnoses.

NCDB provides a facility identification variable, which was examined for the number of MCC patients managed per year. Facilities were classified as low volume (<1 case/y), moderate volume (≥1 and ≤3 cases/y), and high volume (>3 cases/y). These frequency cutoff values were attained by calculating the tertiles of the average annual cumulative cases of localized MCC at all facilities. These case frequency designations were then rounded to the nearest whole number of cases per year for analysis.

Cox proportional hazards regression modeling determined the hazard ratios along with odds ratios and corresponding 95% confidence intervals. Variables that showed significant differences on univariate Kaplan-Meier analysis were included in the Cox regression, including age, sex, race, median income, Charlson-Deyo comorbidity index, geography, stage, tumor size (cm diameter), primary site, insurance status, academic affiliation, and treatment. P values of <.05 were considered statistically significant.

The total study cohort of localized MCC patients (n = 8252) was handled at 1147 facilities (Table I). There were 998 low-volume facilities (87.0%), 123 moderate-volume facilities (10.7%), and 26 high-volume facilities (2.3%), which handled 49.1%, 28.3%, and 22.6% of the case volume, respectively. In the 12-year span, the greatest number of cases handled by 1 institution was 213 patients (17.75 cases/y).

Kaplan-Meier analysis revealed significant differences in 5-year overall survival (log-rank $P < .001$) at the low-volume (52.2%), moderate-volume (57.0%), and high-volume (64.4%) facilities. On Cox analysis, moderate volume and academic affiliation did not show significant associations with overall survival. High-volume facilities were associated with prolonged overall survival (reference: low-volume: odds ratio, 0.816; 95% confidence interval, 0.692-0.963; $P = .016$).

According to these national data, treatment of localized MCC at high-volume facilities is associated with prolonged overall survival. This conclusion is consistent with similar reports for metastatic melanoma, nonmetastatic melanoma, and other malignancies.[3] Previous studies suggest that cancer treatment practices at higher-volume centers are more likely to follow evidence-based guidelines.[4] Reports on the same physicians practicing at both high- and low-volume facilities have demonstrated improved outcomes with the provider specifically practicing at the higher-volume centers and that institutional factors independently influence outcomes.[5] We hypothesize that a greater familiarity with localized MCC lends to streamline treatments within and among a multidisciplinary team.

Limitations to this study include that NCDB does not provide information on disease-specific survival, which may overestimate mortality risk, or information on disease recurrence.

In conclusion, these findings support care consolidation or extension of these high-volume institutions to improve patient outcomes for localized MCC.

Table I. Bivariate analysis of tumor characteristics and treatment modalities*

Variable	Low-volume (<1 case/y), n = 4,049 (49.1)	Moderate-volume (≥1 and ≤3 cases/y), n = 2,336 (28.3)	High-volume (>3 cases/y), n = 1,867 (22.6)	*P* value
Primary site				
Head and neck	1792 (44.9)	1169 (50.6)	1047 (56.5)	<.001
Trunk	623 (15.6)	339 (14.7)	218 (11.8)	<.001
Extremities	1572 (39.4)	801 (34.7)	588 (31.7)	<.001
Stage				
0 (in situ)	66 (1.6)	48 (2.1)	39 (2.1)	.333
I	2580 (63.7)	1610 (68.9)	1404 (75.2)	<.001
II	1403 (34.7)	678 (29.0)	424 (22.7)	<.001
Tumor size, cm				
<1	1152 (32.1)	763 (37.8)	780 (47.8)	<.001
≥1 and <2	1115 (31.0)	654 (32.4)	465 (28.5)	.037
≥2	1326 (36.9)	603 (29.9)	388 (23.8)	<.001
Academic facility	634 (16.1)	1450 (64.4)	1676 (92.5)	<.001
Geography				
Metropolitan	3213 (81.7)	1944 (86.4)	1472 (81.3)	<.001
Urban	658 (16.7)	260 (11.6)	306 (16.9)	<.001
Rural	64 (1.6)	46 (2.0)	32 (1.8)	.488
Management				
Surgery alone	2393 (59.1)	1565 (67.0)	1406 (75.3)	<.001
Radiation alone	105 (2.6)	33 (1.4)	19 (1.0)	<.001
Surgery + adjuvant radiation	1514 (37.4)	715 (30.6)	431 (23.1)	<.001

*Case numbers represent the total volume from 2004 to 2015. Data are presented as number (%). The percentages represent valid percentages, excluding patients with missing information.

Marcus L. Elias, BS,[a] *W. Clark Lambert, MD, PhD,*[a,b] *and Robert A. Schwartz, MD, MPH, DSc (Hon), FRCP Edin*[a,b]

From Dermatology[a] *and Pathology,*[b] *Rutgers New Jersey Medical School, Newark, New Jersey*

Funding sources: None.

Conflicts of interest: None disclosed.

Reprints not available from the authors.

Correspondence to: Robert A. Schwartz, MD, MPH, DSc (Hon), FRCP Edin, Professor and Head, Dermatology, Rutgers New Jersey Medical School, 185 S Orange Ave, Newark, NJ 07103

E-mail: roschwar@cal.berkeley.edu

REFERENCES

1. Paulson KG, Park SY, Vandeven NA, et al. Merkel cell carcinoma: current US incidence and projected increases based on changing demographics. *J Am Acad Dermatol*. 2018;78:457-463.e2.
2. Tello TL, Coggshall K, Yom SS, Siegrid SY. Merkel cell carcinoma: an update and review: current and future therapy. *J Am Acad Dermatol*. 2018;78:445-454.
3. Huo J, Lairson DR, Du XL, et al. Hospital case volume is associated with improved survival for patients with metastatic melanoma. *Am J Clin Oncol*. 2016;39:491.
4. Monson JR, Probst CP, Wexner SD, et al. Failure of evidence-based cancer care in the United States: the association between rectal cancer treatment, cancer center volume, and geography. *Ann Surg*. 2014;260:625-632.
5. Kim MG, Kwon SJ. Comparison of the outcomes for laparoscopic gastrectomy performed by the same surgeon between a low-volume hospital and a high-volume center. *Surg Endosc*. 2014;28:1563-1570.

https://doi.org/10.1016/j.jaad.2019.05.027

Extending the phenotype of midface toddler excoriation syndrome (MiTES): Five new cases in three families with PR domain containing protein 12 (*PRDM12*) mutations

To the Editor: Midface toddler excoriation syndrome (MiTES) is a newly recognized autosomal recessive condition arising in the first year of life and characterized by deep, self-inflicted excoriations largely confined to the medial cheeks, nasal bridge, and central forehead. Eight patients, all children aged 11 years or younger, from 7 families have been reported, 6 from India and 2 from the United Kingdom and Ireland.[1,2] MiTES is associated with biallelic mutations in the gene PR domain containing protein 12 (*PRDM12*).[2]

We report 5 new patients from 3 families, including an affected adult. After informed consent, genomic DNA was isolated for targeted Sanger sequencing of