



Fig 2. Gabor-domain optical coherence microscopy (GD-OCM) cross-section (parallel to optical axis) and en-face image (perpendicular to optical axis) comparison of healthy skin (**A**), nodular basal cell carcinoma (BCC) (**B**), and superficial BCC (**C**). The superficial BCC case was reported as not specified on the original biopsy (Table 1).¹ White and black arrows represent tumors and hair follicles, respectively. Green dashed lines on the cross-section images (**A1**, **B1**, and **C1**) represent the cut-through locations of the en-face images (**A2**, **B2**, and **C2**, respectively). Orange dashed lines on the en-face images (**A2**, **B2**, and **C2**) represent the cut-through locations of the cross-section images (**A1**, **B1**, and **C1**, respectively). Unlike the nodular BCC, where the cross-section image clearly shows a nodule of tumor (**B1**), tumor can be barely identified in the cross-section image of the superficial BCC (**C1**). In this case, viewing the en-face image was critical to confirming the presence of tumor (**C2**). **B3** and **C3**, Histologic staining of slices from the corresponding patients. Video-nodular-BCC and Video-superficial-BCC show the 3D images of cases B and C. Bar represents 100 μm .

REFERENCES

1. Cheng HM, Guitera P. Systematic review of optical coherence tomography usage in the diagnosis and management of basal cell carcinoma. *Br J Dermatol*. 2015;173:1371-1380.
2. Murali S, Thompson KP, Rolland JP. Three-dimensional adaptive microscopy using embedded liquid lens. *Opt Lett*. 2009;34:145-147.
3. Lee KS, Zhao H, Ibrahim SF, Meemon N, Khoudeir L, Rolland JP. Three-dimensional imaging of normal skin and nonmelanoma skin cancer with cellular resolution using Gabor domain optical coherence microscopy. *J Biomed Opt*. 2012;17:126006.
4. Cogliati A, Canavesi C, Hayes A, et al. MEMS-based handheld scanning probe with pre-shaped input signals for distortion-free images in Gabor-domain optical coherence microscopy. *Opt Express*. 2016;24:13365-13374.

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Trends in the incidence and survival of eccrine malignancies in the United States: A SEER population-based study



To the Editor: Eccrine malignancies are rare cutaneous tumors that are incompletely described on a population level.¹ In addition, little information exists regarding differences in the clinical characteristics of eccrine malignancies among different demographic groups.² The objective of this study is to elucidate trends in the incidence, clinical characteristics, and mortality of primary eccrine malignancies using the National Cancer Institute's Surveillance,

Table I. Demographics of patient sample (Surveillance, Epidemiology, and End Results 18, 2000-2013)

	Total (N = 1137)	Male (n = 632)	Female (n = 525)
	n (%)	n (%)	n (%)
Age groups, y			
≤19	8 (0.7)	4 (0.6)	4 (0.8)
20-39	86 (7.5)	51 (8.1)	35 (6.7)
40-59	297 (26.1)	185 (29.3)	112 (21.3)
60-79	468 (41.2)	250 (39.6)	218 (41.5)
≥80	279 (24.5)	142 (22.5)	137 (26.1)
Race			
White	938 (82.5)	530 (83.9)	408 (77.7)
Black	82 (7.2)	46 (7.3)	36 (6.9)
Other	47 (4.1)	23 (3.6)	24 (4.6)
Unknown	71 (6.2)	33 (5.2)	38 (7.2)
Residence			
Metropolitan	1030 (90.6)	566 (89.6)	464 (88.4)
Rural	107 (9.4)	66 (10.4)	41 (7.8)
Malignancy			
Malignant eccrine spiradenoma	93 (8.2)	45 (7.1)	48 (9.1)
Eccrine papillary adenocarcinoma	103 (9.1)	81 (12.8)	22 (4.2)
Malignant eccrine poroma	493 (43.4)	274 (43.4)	219 (41.7)
Eccrine adenocarcinoma	449 (39.5)	232 (36.7)	217 (41.3)

Table II. Ten-year age-adjusted survival rates

	Observed	Observed SE	Relative	Relative SE
Malignant eccrine spiradenoma	63.76%	5.12%	80.25%	9.28%
Eccrine papillary adenocarcinoma	90.17%	5.44%	97.82%	5.90%
Malignant eccrine poroma	55.55%	5.00%	85.77%	6.18%
Eccrine adenocarcinoma	66.58%	3.76%	92.64%	2.14%

SE, Standard error.

Epidemiology, and End Results (SEER) 18 registries from 2000 to 2013.³

Patients diagnosed with malignant eccrine spiradenoma, eccrine papillary adenocarcinoma, eccrine adenocarcinoma (EA), and malignant eccrine poroma (MEP) as their first primary tumor were included in this study.⁴ We performed descriptive analysis, determined age-adjusted incidence rates, and used Joinpoint time-trend regression analysis to calculate an annual percent change (APC) to elucidate trends over population subsets, and calculated observed and relative 10-year age-adjusted survival rates using the Kaplan–Meier method. All analyses were performed in SEER*Stat 8.3.4 and R software, and all incidence rates are shown per 100,000 person-years. In total, 1137 patients with primary eccrine malignancies were identified in SEER 18 from 2000 to 2013 (Table I). The incidence of eccrine malignancies was significantly greater in males than females (0.12 vs 0.08; $P < .0001$) and the incidence was significantly lower in black patients (0.07) than white patients (0.07 vs 0.10; $P < .01$). The age-

adjusted annual incidence of eccrine malignancies increased by 58.2% from 2000 to 2013 controlling for age, race, sex, residence, and malignancy, with an overall annual percentage change of 4.35% ($P < .001$). The increase in incidence was significant for males (4.40% APC), females (4.21% APC), and white patients (4.41% APC; $P < .01$ for all). The increase in incidence among black patients was not significant.

The relative 10-year age-adjusted survival rate of eccrine malignancies was 90.84%. Observed and relative age-adjusted survival rates were different, however, across each of the 4 eccrine malignancies (Table II). Eccrine papillary adenocarcinoma had significantly greater relative age-adjusted survival than all other eccrine malignancies ($P < .01$), and malignant eccrine poroma had the lowest relative age-adjusted survival rate ($P < .01$). Increasing age was associated with increasing mortality rate ($P < .01$). Male (hazard ratio [HR] 1.07), black (HR 1.13), and rural (HR 1.21) patients with eccrine malignancies had greater all-cause mortality when

compared to female, white, and metropolitan patients, respectively (HRs 1.07, 1.13, and 1.21, respectively; $P < .05$ for all).

This population-based study shows that the incidence of eccrine malignancies is increasing significantly and increasing age, black race, male sex, and rural residence are all associated with worse outcomes. Significant differences in incidence and mortality among demographic groups and different eccrine malignancies warrant further research regarding the biologic underpinnings of the various eccrine malignancies. Our findings also corroborate the growing literature showing differences in health care outcomes for common cutaneous malignancies with regard to the urban–rural continuum and different racial groups.⁵

Limitations of the SEER registries include inconsistent follow-up, as well as lack of verification of individual diagnoses and under-registration of patients.^{6,7} Better characterizing clinical differences in eccrine malignancies related to race, sex, and residence is critical in better recognizing their epidemiologic characteristics, more precisely establishing a clinical approach, and providing more comprehensive patient education.

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REFERENCES

1. Tolkachjov SN, Schmitt AR, Muzic JG, Weaver AL, Baum CL. Incidence and clinical features of rare cutaneous malignancies in Olmsted County, Minnesota, 2000 to 2010. *Dermatol Surg.* 2017;43:116-124.
2. Unsal AA, Patel VR, Chung SY, Zhou AH, Baredes S, Eloy JA. Head and neck sweat gland adenocarcinoma: a population-based perspective of a rare entity. *Laryngoscope.* 2017;127:2757-2762.
3. National Cancer Institute. *Surveillance, Epidemiology, and End Results (SEER) Program. SEER limited-use data (1973-2013)*. Bethesda, MD: National Cancer Institute; 2014
4. World Health Organization. *International Classification of Diseases for Oncology, 3rd edition (ICD-O-3)*. Geneva, Switzerland: World Health Organization; 2013
5. Meit M, Knudson A. Leveraging interest to decrease rural health disparities in the United States. *Am J Public Health.* 2017;107:1563-1564.
6. Mayer JE, Swetter SM, Fu T, Geller AC. Screening, early detection, education, and trends for melanoma: current status (2007-2013) and future directions. *J Am Acad Dermatol.* 2014; 71:599.e1-12.
7. Kosary CL, Altekruze SF, Ruhl J, Lee R, Dickie L. Clinical and prognostic factors for melanoma of the skin using SEER registries: collaborative stage data collection system, version 1 and version 2. *Cancer.* 2014;120:3807-3814.

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Comparative clinicopathologic analysis of cutaneous peripheral T-cell lymphoma, not otherwise specified, according to primary tumor site



To the Editor: Peripheral T-cell lymphoma, not otherwise specified (PTCL-NOS) is the rarest subtype of primary cutaneous lymphoma, accounting for approximately 2% of cutaneous lymphomas; therefore, clinicopathologic features of this subtype are not well established.^{1,2} It is important to differentiate cases of systemic PTCL-NOS from primary cutaneous PTCL-NOS because the prognosis varies depending on the primary tumor site.^{3,4} We analyzed the clinicopathologic characteristics according to the primary tumor site by comparing primary with secondary cutaneous PTCL-NOS. Primary cutaneous PTCL-NOS (group A) was defined as involving only the skin at the initial staging with no evidence of extracutaneous disease at that time or as cutaneous lesions preceding systemic involvement by >6 months. The initial staging workup included a complete blood cell count, serum lactate dehydrogenase level, obtaining a bone marrow biopsy specimen, and computed tomography.

A total of 53 cases of cutaneous PTCL-NOS were identified in the medical database at Asan Medical Center (Table I). The age of patients in secondary cutaneous PTCL-NOS (group B) was significantly higher than in primary cutaneous PTCL-NOS (group A) ($P = .024$). Advanced stage, International Prognostic Index (IPI) score >2, and an elevated serum lactate dehydrogenase level