Table II. Rates of DIOSD reported in clinical studies, including retrospective, prospective, open-label studies, and RCTs

Study	Total treated; n	Patients with DIOSD; n	Rate of DIOSD; %	Latency to DIOSD; weeks	Severe DIOSD; n (% of patients with DIOSD)
Real life retrospective	1860	385	20.6	10.1	14 (15.2)*
Prospective and open label	4735	1187	25.1	-	38 (3.6)*

RCT	Total treated; n	Patients and rate of DIOSD in treatment group; n (%)	Total treated with placebo; n	Patients and rate of ocular surface disorders in placebo group; n (%)	Severe DIOSD; n (% of patients with DIOSD)
Atopic dermatitis indication	2,532	276 (10.9)	1325	59 (4.5)	8 (6)*
Nonatopic dermatitis indication	2030	12 (0.59)	953	7 (0.73)	0

DIOSD, Dupilumab-induced ocular surface disease; *RCT*, randomized controlled trial.
*Of the total number of patients for which data on severity and discontinuation were known.

in patients with AD and AD-related dermatologic disorders. The higher incidence of DIOSD in prospective and real-life retrospective trials than in RCTs may be due to the increased awareness of this adverse effect, which may have been overlooked in earlier RCTs.

The pathogenic mechanisms responsible for DIOSD remain obscure. By blocking interleukin 13, dupilumab may cause goblet cell hypoplasia, resulting in decreased mucin secretion and mucosal epithelial barrier dysfunction, leading to DIOSD.[4] Alternatively, upregulation of Th1 response due to the effect of dupilumab on Th2 signaling may contribute to DIOSD pathogenesis.[5]

In conclusion, DIOSD is a common adverse effect of dupilumab in AD, which tends to resolve with topical treatment and continuation of dupilumab. Long-term sequelae are rare. Predisposing factors of DIOSD and its pathomechanisms should be further investigated.

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Funding sources: None.

IRB approval status: Not applicable.

Reprints not available from the authors.

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Conflicts of interest

None disclosed.

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https://doi.org/10.1016/j.jaad.2021.09.029

Racial disparities in mortality among patients with prurigo nodularis: A multi-center cohort study

To the Editor: Prurigo nodularis (PN) is a chronic inflammatory skin condition characterized by intensely pruritic and hyperkeratotic nodules on the torso and extremities.[1] Studies to date have shown that PN is associated with many systemic and psychiatric comorbidities, and racial/ethnic minorities are affected disproportionately.[2] Although the morbidity of PN is well documented, there are no available data on the mortality associated with PN. We sought to investigate the mortality among patients with PN and stratify by race/ethnicity to identify racial disparities.

Table I. Baseline demographics of prurigo nodularis and control patients, before and after propensity score matching, by age, sex, race, and ethnicity

Demographics	Before matching			After matching		
	Prurigo nodularis (N = 22,858)	Control (N = 5,382,112)	*P* value	Prurigo nodularis (N = 22,858)	Control (N = 22,858)	*P* value
Age, mean ± SD	53.9 ± 17.5	34.0 ± 25.6	<.0001	53.9 ± 17.5	53.9 ± 17.5	.9989
Sex						
Female, % (n)	61.10% (13,967)	55.72% (2,999,128)	<.0001	61.10% (13,967)	61.10% (13,967)	>.9999
Male,% (n)	38.88% (8886)	44.25% (2,381,660)	<.0001	38.88% (8886)	38.88% (8888)	.9847
Race						
White, % (n)	60.85% (13,909)	65.86% (3,544,857)	<.0001	60.85% (13,909)	60.84% (13,907)	.9847
Black, % (n)	22.62% (5170)	18.04% (970,787)	<.0001	22.62% (5170)	22.62% (5170)	>.9999
Asian, % (n)	3.21% (733)	3.40% (183,199)	.1010	3.21% (733)	3.21% (733)	>.9999
American Indian or Alaska Native, % (n)	0.38% (86)	0.34% (18,537)	.4127	0.38% (86)	0.39% (88)	.8793
Native Hawaiian or Other Pacific Islander, % (n)	0.11% (26)	0.13% (7176)	.4179	0.11% (26)	0.11% (26)	>.9999
Ethnicity						
Hispanic or Latino, % (n)	7.15% (1635)	11.10% (597,333)	<.0001	7.15% (1635)	7.15% (1635)	>.9999
Not Hispanic or Latino, % (n)	68.53% (15,664)	56.57% (3,044,656)	<.0001	68.53% (15,664)	68.53% (15,664)	>.9999

We used TriNetX, a health research network of approximately 64 million patients in 45 large health care organizations. Patients with PN were identified by individuals with ≥2 International Classification of Diseases, Tenth Revision (ICD-10) codes for PN (L28.1). The primary years of analysis included 1995 through 2020; diagnoses prior to the introduction of ICD-10 were mapped by TriNetX using SNOMED-CT concepts.[3] Control patients included those with no diagnostic codes for PN. Patients with PN were matched to controls by age, sex, race, and ethnicity using 1:1 propensity score matching. Patients were stratified by race/ethnicity, and each subgroup was compared with a corresponding control subgroup of similar race/ethnicity to control for inherent disparities in mortality. The all-cause mortality was determined by searching for death in a 20-year observation period following the index date; the index date for each patient was the time of the first diagnosis. The baseline demographics were compared using the Student *t* test for continuous variables and Z test for proportions. The all-cause mortality hazard ratios (HRs) and 95% confidence intervals (CIs) were calculated using the Cox proportional hazards model. The differences in survival were assessed using the log-rank test.

A total of 22,858 patients with ≥2 ICD-10 codes for PN were identified. Before matching, patients with PN were older, more likely to be women, non-Hispanic, and Black compared with control patients (Table I). After propensity score matching, there were no significant differences in age, sex, or race/ethnicity. Patients with PN, overall, had higher all-cause mortality than controls (HR, 1.70; 95% CI, 1.51-1.91; $P < .001$) (Fig 1). Black patients with PN had the highest mortality (HR, 2.07; 95% CI, 1.64-2.61; $P < .001$), followed by White (HR, 1.74; 95% CI, 1.52-2.00; $P < .001$) and Hispanic (HR, 1.62; 95% CI, 1.03-2.54; $P = .029$) patients. Increased mortality was not observed in Asian patients with PN.

We found that patients with PN, overall, had higher all-cause mortality than control patients, likely due to the high comorbidity burden seen in patients with PN. The observed HR was higher than reported HRs of other inflammatory dermatoses, such as psoriasis (HR, 1.21) and atopic dermatitis (HR, 1.27).[3,4] Additionally, subgroup analysis revealed that Black patients with PN had the highest mortality. This observation may be because PN exacerbates the existing racial disparities in the social determinants of health. Additionally, PN was recently found to feature systemic and cutaneous Th22 polarization, so the patterns observed in this study may suggest that Black patients with PN may suffer from greater systemic inflammation, leading to higher mortality.[5] Further research is needed,

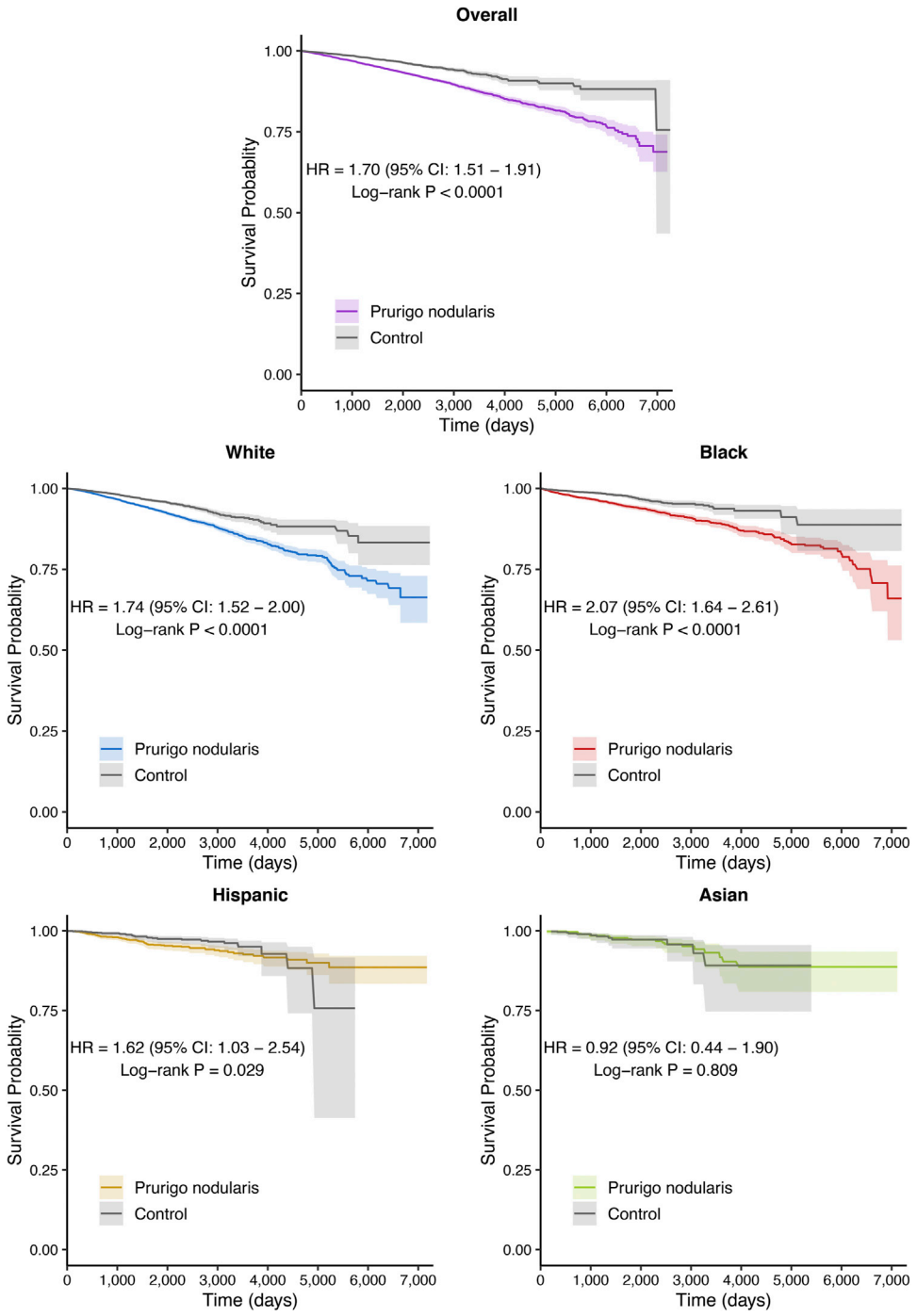

Fig 1. All-cause mortality of patients with PN over a 20-year observation period after initial diagnosis. *PN*, Prurigo nodularis.

however, to explore the cause of these disparities in mortality among patients with PN.

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Funding sources: Dr Kwatra is supported by the National Institute of Arthritis and Musculoskeletal and Skin Diseases of the National Institutes of Health under award number K23AR077073. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

IRB approval status: IRB approval was waived by the institutional review board of Johns Hopkins Medicine.

Reprints not available from the authors.

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Conflicts of interest

Dr Kwatra is an advisory board member/consultant for Abbvie, Celldex Therapeutics, Galderma, Incyte Corporation, Pfizer Inc, Regeneron Pharmaceuticals, and Kiniksa Pharmaceuticals and has received grant funding from Galderma, Pfizer Inc, and Kiniksa Pharmaceuticals. Authors Sutaria, Adawi, Brown, Parthasarathy, Roh, Choi, Bordeaux, Trinh, Le, and Deng and Drs Semenov and Kwatra have no conflicts of interest to disclose.

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https://doi.org/10.1016/j.jaad.2021.09.028

Medical schools as gatekeepers: A survey and analysis of factors predicting dermatology residency placement

To the Editor: Dermatology is among the most competitive specialties for residency applicants. With an increasingly rigorous match process, successful applicants typically have strong US Medical Licensing Examination scores alongside extensive research experience. Additionally, 41% of matched applicants attended the top 40 ranked US medical schools (by National Institutes of Health funding), the second highest of any specialty (Supplemental Table I available via Mendeley at https://data.mendeley.com/datasets/gr8w4dg2dv/1.)[1]

Although students cite many reasons for their interest in dermatology, exposure to dermatology in medical school curricula is limited.[2,3] Given less available data on what factors influence dermatology choice and successful matching, we sought to identify schools matching the most dermatology residents and assess associations between school characteristics with successful matching of students.

Table I. Top medical schools ranked by the number of medical students matching to dermatology residency (2017-2020)*

Rank	Name of Medical School	Number of Matched Students	Ratio of Matched Students to Class Size†
1	Baylor College of Medicine	27	0.15
2	Harvard University	26	0.15
3	University of Michigan	24	0.14
4	Louisiana State University—New Orleans	23	0.12
4	Northwestern University	23	0.14
4	University of Pennsylvania	23	0.15
7	New York University	22	0.22
7	Columbia University	22	0.16
9	Yale University	21	0.21
10	University of Miami	19	0.09
11	Duke University	18	0.15
11	SUNY Downstate	18	0.09
13	Stanford University	17	0.20
13	University of Central Florida	17	0.14
13	Wayne State University	17	0.06
13	Washington University in St. Louis	17	0.16
17	Johns Hopkins University	16	0.13
17	University of California, Los Angeles	16	0.09
17	University of Texas Southwestern	16	0.07
20	Temple University	15	0.07
20	Texas A&M	15	0.09
20	Drexel University	15	0.06

*The ratio of the number of matched students to medical school class size was calculated to provide a normalized comparison between schools.

†Bivariate analysis via 2-tailed *t* test of the mean number of students matched per medical school by variable is described.