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Racial Differences in Secondary Skin Complications and Timing of Topical Therapy Initiation for Pseudofolliculitis Barbae: A Multicenter Retrospective Database Cohort Study

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To the Editor,

Pseudofolliculitis barbae (PFB) is a chronic inflammatory disease caused by penetration of a shaved, curved hair shaft into the skin via extrafollicular or transfollicular mechanisms, most often affecting the neckline, cheeks, and chin in men and hair-bearing areas in women.[1] The chronic inflammation associated with PFB often results in papules and pustules, secondary infection, post-inflammatory hyperpigmentation (PIH), and hypertrophic scarring.[2,3] PFB can have a negative impact on quality of life, which can be exacerbated in individuals who are required to shave frequently due to occupational policies.[4,5] While the dermatologic sequelae of PFB have been well documented, there are limited large-scale retrospective cohort studies that quantify the burden of secondary skin complications such as PIH and hypertrophic scarring, and investigate racial differences in time-to-treatment initiation for topical therapies.

The TriNetX Research Network (>131 million patients) was queried on November 10th, 2025. Adults aged ≥ 18 years with ≥ 2 ICD-10 codes for PFB documented at least 1 month apart were included. 6,988 patients met diagnostic criteria, of which 2,113 identified as White and 4,031 as Black/African American (Black/AA). After propensity score matching for age, sex, and gender, 2,045 patients were included within each cohort. All reported risk differences (RD) and relative risks (RR) are statistically significant (P<0.05). Black/AA patients had a significantly higher risk of secondary skin complications compared with White patients (Table 1), consistent with existing literature.[1-3] PIH occurred in 6.18% of Black/AA patients vs. 1.56% of White patients (RD=4.63%; RR=3.98). Hypertrophic scarring was observed in 2.38% of Black/AA patients vs. 1.00% of White patients, (RD=1.38%; RR=2.38).

Time-to-treatment using topical medications for PFB varied by race (Table 2). Black/AA patients received topical corticosteroids sooner (281 ± 512 days) compared to White patients (352 ± 550 days), however White patients were more likely to receive them as initial therapy (36.5% vs. 28.4%). With regards to topical clindamycin, White patients had a shorter time to initiation (111 ± 272 days) compared to Black/AA (139 ± 340 days), and more frequently received it as initial treatment (26.7% vs. 18.6%). Black/AA patients received topical retinoids sooner (106 ± 294 days vs. 207 ± 439 days for White patients) and were prescribed them more frequently (13.1% vs. 9.98%). Time to benzoyl peroxide use was similar between groups, with similar frequency of use. Topical erythromycin was rarely used as it was not observed among White patients and was rarely used among Black/AA patients.

TABLE 1.

Secondary Skin Outcomes Associated with Pseudofolliculitis Barbae by Race

Secondary Skin Outcome	Black/AA patients with PFB: Patients with Outcome / Matched Cohort Population (Risk %)	White patients with PFB: Patients with Outcome / Matched Cohort Population (Risk %)	Risk Difference (95% CI)	*P*-value	Risk Ratio (95% CI)
Post-Inflammatory Hyperpigmentation, L81.0	106/1,715 (6.18%)	31/1,994 (1.56%)	4.63% (95% CI: 3.36,5.89)	< 0.0001	RR = 3.98 (95% CI: 2.68,5.90)
Hypertrophic Scar (includes keloidal scarring), L91.0	45/1,886 (2.38%)	20/1,993 (1.00%)	1.38% (95% CI: 0.57,2.20)	0.0008	RR = 2.38 (95% CI: 1.41,4.01)

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TABLE 2.

Racial Differences in Time-to-Treatment Initiation and Utilization of Topical Adjunctive Therapies for Pseudofolliculitis Barbae*

Medication	Metric	White	Black or African American
Topical Corticosteroids	Mean Time in Days ± SD to Use	352.441 ± 549.849	281.36 ± 511.585
	% Receiving as Initial Treatment	36.5%	28.4%
Topical Clindamycin	Mean Time in Days ± SD to Use	111.046 ± 271.542	139.093 ± 339.524
	% Receiving as Initial Treatment	26.7%	18.6%
Topical Retinoids	Mean Time in Days ± SD to Use	206.991 ± 439.336	105.571 ± 293.936
	% Receiving as Initial Treatment	9.98%	13.1%
Topical Benzoyl Peroxide	Mean Time in Days ± SD to Use	119.36 ± 317.457	140.035 ± 410.706
	% Receiving as Initial Treatment	6.57%	6.45%
Topical Erythromycin	Mean Time in Days ± SD to Use	NA	136.364 ± 256.217
	% Receiving as Initial Treatment	0%	0.83%

*987 patients or 46% of the cohort did not have a documented treatment pathway, suggesting either no pharmacologic intervention or use of non-pharmacologic behavioral modifications (e.g., reducing shaving frequency or changing hair-removal methods)

Across this matched cohort, Black/AA patients exhibited higher rates of PIH and hypertrophic scarring, consistent with prior literature.[1-5] Racial differences in time-to-treatment, including delayed clindamycin initiation in Black/AA patients and earlier use of corticosteroids and retinoids likely reflect greater disease severity in this population. Nearly half of all patients (n=968; 46%) had no documented pharmacologic intervention, potentially suggesting delayed diagnosis, barriers to care, or lack of standardized management strategies. Future studies such as randomized placebo-controlled trials and expert consensus studies may be warranted to reduce preventable sequelae and support equitable care across all patient populations.

DISCLOSURES

Dr. Taylor has served as a consultant, advisory board member and/or speaker for AbbVie, Arcutis, Armis Scientific, Avita, Beiersdorf, Biorez, Bristol-Myers Squibb, Cara Therapeutics, Dior, Eli Lilly, EPI Health, Evolus, Galderma, GloGetter, Hugel America, Incyte, Johnson & Johnson, L'Oreal USA, MedScape, MJH LifeSciences, Pfizer, Piction Health, Sanofi, Scientis US, UCB and Vichy Laboratories. All other authors have no conflicts of interest to disclose.

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