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### Conflicts of interest

None disclosed.

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## Race, ethnicity, and comorbidities are critical factors in the diagnosis of telogen effluvium during the COVID-19 pandemic



*To the Editor:* Since the arrival of COVID-19, cases of telogen effluvium (TE) have substantially increased.<sup>1</sup> In this study, we assess the influence of race, ethnicity, and comorbidities on the incidence of TE during the pandemic.

To analyze the occurrence of TE, the number of patients with this diagnosis were extracted from the combined patient volume evaluated by the dermatology departments of 8 safety-net hospitals in New York City. The incidence of TE between August 1, 2019, and February 29, 2020, (pre-pandemic) was compared with the incidence of this disorder between March 1, 2020, and October 1, 2020 (pandemic). Cases were filtered by COVID-19 positivity, demographics, and comorbidities. This study was exempted from IRB approval as only unidentifiable data was utilized (Slicer/Dicer, EPIC, WI).

From March 1, 2020, to October 1, 2020, 108 patients were diagnosed with TE (10 positive and 98 negative or untested for COVID-19) compared with 39 patients from before the pandemic, corresponding to a nearly 3-fold increased incidence during the pandemic (Fig 1). Although the extent of illness among our COVID<sup>+</sup> cohort is unknown, it is notable that all but 1 (9/10) had underlying medical conditions that portend a more serious presentation of SARS-CoV-2<sup>2</sup> (Table 1). A prior case series of 10 individuals with TE subsequent to COVID-19 similarly

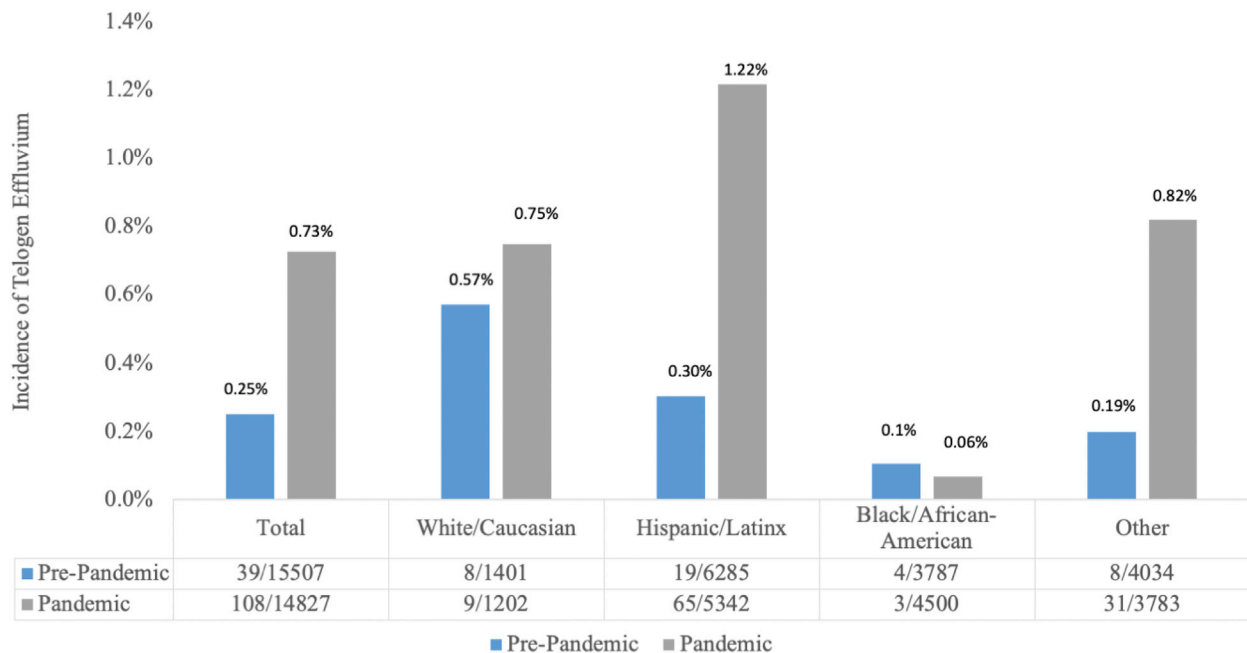
identified that a majority (8/10) had prior medical issues, suggesting that the presence of comorbidities in conjunction with COVID-19 positivity may increase one's risk of developing TE.<sup>1</sup> A larger sample size is needed to confirm this association.

During the pandemic, the number of cases of TE in Caucasians (n = 9) was similar to that identified before the pandemic (n = 8) (Fig 1). However, cases of TE increased significantly in Hispanic (65 pandemic >19 pre-pandemic) and other non-White individuals (31 pandemic > 8 pre-pandemic) in line with the disproportionate effect of COVID-19 on minority populations. Unexpectedly, there were only 3 diagnoses of TE in Blacks, a demographic also severely impacted by the pandemic. A paucity of cases of TE in Blacks (n = 4) was similarly noted before the pandemic compared with all other groups. Limitations include the possibility of coding errors and potential for inconsistencies in the diagnostic criteria of TE among hospital sites.

Although TE is one of the most common types of nonscarring hair loss, there is remarkably limited data on the epidemiology of this disorder. Notably, telogen percentage, density, and growth rate of normal hair show substantial variability among ethnicities.<sup>3</sup> The microstructural appearance differs as well. In Whites and Asians, hair lost in grooming tends to be full-length with an attached root, whereas in Blacks, the root is more commonly lacking and there is longitudinal fissuring in the shaft suggestive of breakage.<sup>4</sup> Hair loss disorders can also demonstrate ethnic and racial disparities. Blacks, for instance, are at increased risk for cicatricial alopecia,<sup>5</sup> a trend we have similarly observed in our population (Supplemental Fig 1 available via Mendeley at 10.17632/gpjxzt7f2f.1). This demographic may have a decreased risk for other types of hair loss, such as TE, which may contribute to the paucity of cases noted in this group. A larger sample size is needed to investigate this hypothesis. Further research exploring the development and diagnosis of TE in diverse populations is also warranted.

Abigail Cline, MD, PhD,<sup>a,b</sup> Ashley Keyes Jacobs, MD,<sup>c</sup> Maira Fonseca, MD,<sup>c</sup> Julia Wu, MD,<sup>d</sup> Falguni Asrani, MD,<sup>e,b</sup> Bijan Safai, MD,<sup>a</sup> Sharon Glick, MD,<sup>g</sup> Beth N. McLellan, MD,<sup>f</sup> Amy J. McMichael, MD,<sup>i</sup> and Shoshana Marmon, MD, PhD<sup>b,e,b</sup>

From the Metropolitan Medical Center, Department of Dermatology, New York, New York,<sup>a</sup> the Coney Island Medical Center, Department of Dermatology, Brooklyn, New York,<sup>b</sup> the Lincoln Medical Center, Department of Dermatology, Bronx, New York,<sup>c</sup> the Elmhurst Medical Center, Department of Dermatology, Queens, New York,<sup>d</sup> the



**Fig 1.** Demographic distribution of the incidence of telogen effluvium (TE). Pre-pandemic is measured from August 1, 2019 to February 29, 2020. Pandemic is measured from March 1, 2020 to October 1, 2020. Total patients evaluated by the dermatology departments at Woodhull, Cumberland, Kings County, Elmhurst, Lincoln, Jacobi, Coney Island & Metropolitan Hospital Sites. Cases of TE/total patients evaluated by dermatology in each demographic.

**Table I.** Characteristics of COVID-19<sup>+</sup> patients diagnosed with telogen effluvium. COVID-19 infection confirmed by either PCR or serology, March 1, 2020 to October 1, 2020.

Cases	Gender	Demographic	Comorbidities
1	F	Hispanic	Obesity, Hyperlipidemia, Diabetes Mellitus Type 2
2	F	Hispanic	Obesity
3	F	Hispanic	Obesity
4	F	Hispanic	Asthma, Hyperlipidemia, Diabetes Mellitus Type 2
5	F	Hispanic	Asthma, Hyperlipidemia, Diabetes Mellitus Type 2
6	F	Other	Asthma, Hyperlipidemia
7	F	Other	Asthma
8	F	Other	Hypertension, Diabetes Mellitus Type 2
9	F	Other	--
10	F	White	Obesity, Hyperlipidemia

Woodhull Medical Center, Department of Dermatology, Brooklyn, New York,<sup>e</sup> the Jacobi Medical Center, Division of Dermatology, Bronx, New York,<sup>f</sup> the Kings County Medical Center, Department of Dermatology and Pediatrics, Brooklyn, New York,<sup>g</sup> the Cumberland Medical Center, Department of Dermatology, Brooklyn, New York,<sup>b</sup> and the Wake Forest School of Medicine, Department of Dermatology, Winston-Salem, North Carolina.<sup>i</sup>

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Correspondence to: Shoshana Marmon, MD, PhD, Department of Dermatology, Coney Island Hospital, 2601 Ocean Pkwy, Brooklyn, NY 11235

E-mail: [Shoshana.Marmon@nychbc.org](mailto:Shoshana.Marmon@nychbc.org)

**Conflicts of interest**

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**Aquagenic pruritus in polycythemia vera: A cross-sectional study**



*To the Editor:* Polycythemia vera (PV)-associated pruritus, and more specifically aquagenic pruritus (AP), is characterized by the development of an intense itching sensation without observable skin lesions and brought on by contact with water of any temperature.<sup>1</sup> Although AP is recognized as the most excruciating aspect of PV, knowledge about its pathophysiology and precise character is still vague. Therefore, this study was undertaken to analyze the clinical features of AP and its associations with laboratory results.

A group of 102 patients with molecularly confirmed PV (with the Janus kinase 2 gene [*JAK2*] V617F mutation present) was examined. Demographic data, disease history, PV status, and treatment modalities were collected from all participants. AP intensity was evaluated with the Visual Analogue Scale, Verbal Rating Scale, and a 4-Item Itch Questionnaire. Furthermore, all study participants underwent laboratory tests. A complete blood count and serum levels of lactate dehydrogenase, uric acid, and IgE were obtained. The detailed characteristics of the study group are given in [Table I](#).

AP was present in 41.2% of patients with PV (42 of 102). A significant negative correlation between hemoglobin concentration (HGB), hematocrit level (HCT), and severity of pruritus was found when assessed with the Verbal Rating Scale and 4-Item Itch Questionnaire ( $P < .05$ , for all correlations). The same trend was also observed with the Visual Analogue Scale; however, it did not reach statistical significance. Of note, the alterations in HGB or HCT levels was not associated with the presence or absence of AP among patients with PV ( $P > .05$ ) ([Table II](#)). Moreover, only morphologic parameters (including HGB and HCT) were independent factors responsible for a increase or decrease in AP intensity, with no drug influence on PV-associated itching.

The significant negative correlations between the intensity of pruritus and HGB or HCT levels noted in

**Table I.** Characteristics of the studied group

Characteristic	Total	AP	Non-AP	P value*
Sex, n				
Female	65	31	34	NS
Male	37	11	26	
Mean age ± SD, y	66.9 ± 12.7	64.0 ± 13.8	69.0 ± 11.6	NS
Mean BMI, kg/m <sup>2</sup>	26.8 ± 4.2	26.9 ± 4.7	26.8 ± 3.8	NS
Mean duration of PV ± SD, y	6.2 ± 5.9	6.8 ± 7.9	5.7 ± 4.1	NS
Mean age at diagnosis of PV ± SD, y	60.8 ± 12.5	57.2 ± 13.0	63.3 ± 11.5	.02
Episodes of thrombosis, n				
Venous	26	15	11	NS
Arterial	35	13	22	
Presence of pruritus, n				
AP	42	42	0	NA
Senile pruritus	3	0	3	NA
Atopic itch	1	0	1	NA
PV treatment, n				
5-Hydroxyurea	75	30	45	NS
Phlebotomy	66	28	38	
Acetylsalicylic acid	33	17	16	
Clopidogrel	5	4	1	
Anagrelid	4	3	1	
Pipobroman	6	1	5	

AP, Aquagenic pruritus; BMI, body mass index; NA, not applicable; NS, not significant; PV, polycythemia vera; SD, standard deviation.  
\*P value for difference between AP and non-AP.