

## Correspondence

### Telogen effluvium: a sequela of COVID-19

Dear Editor,

Since the emergence of the novel coronavirus SARS-CoV-2, the cause of COVID-19, heavy attention has been paid to its life-threatening pulmonary and cardiovascular manifestations.<sup>1</sup> However, cutaneous signs and symptoms of disease have also been described and may significantly impact patients.<sup>2</sup> While preliminary characterizations have aptly set expectations for acute disease course, it is imperative to establish similar familiarity with late-course and postinfectious manifestations to guide appropriate treatment and patient education. Our patient population located in New York City, which was an early epicenter of disease, demonstrates elements of virus-induced late sequelae. In the ambulatory dermatology clinic, one such increasingly apparent manifestation has been new onset diffuse hair loss in patients previously infected with SARS-CoV-2, clinically compatible with telogen effluvium (TE). TE is characterized by diffuse hair loss within months of a significant systemic stressor because of premature follicular transition from the anagen (active growth phase) to the telogen (resting phase). The telogen phase lasts approximately 3 months, after which excessive hair loss ensues.<sup>3</sup>

Herein, we present 10 patients with concerns of increased hair loss following SARS-CoV-2 infection (Table 1). The patients are all female, with no history of hair loss, diverse ethnic backgrounds, and a median age of 55. All patients had laboratory confirmed COVID-19, six reported mild symptoms, and four presented with severe disease requiring hospitalization. They all experienced excessive hair loss within weeks to months after infection, which included hair coming out in large clumps and thinning along the frontal hairline. While limited physical exam was available for the patients seen by telemedicine, overall exams revealed noncicatricial loss of hair volume, pronounced thinning, and positive hair-pull test (Table 2). Besides COVID-19, the patients did not report any new medical conditions, medications, or lifestyle modifications. While some females did have other risk factors for hair loss, these were chronic issues that would not explain the acute onset of their symptoms. Although additional patients presented with a similar complaint following previous COVID-19-like symptoms, they were not included because of lack of confirmatory PCR or antibody testing.

Given the lack of signs and symptoms of other causes of hair loss, such as an autoimmune disorder, vitamin deficiency, or hormonal abnormality, coupled with the fact that all of the patients recently recovered from COVID-19, the patients were diagnosed with TE.<sup>4</sup> Fortunately, TE is a self-limiting condition.

Proper reassurance and education, however, is essential<sup>3</sup> and highlights the vital role that telemedicine has played over the past months in maintaining high-level dermatologic care for our vulnerable population.<sup>5</sup> While intuitive that this phenomenon of TE secondary to COVID-19 exists, as it has been similarly reported in recent scientific literature and lay media, it nonetheless remains imperative to increase awareness as to its possibility. With increasing numbers of recovering patients, the risk of developing this physically and emotionally distressing dermatologic manifestation will likely continue.<sup>5,6</sup>

### Availability of data

The data supporting the findings discussed are available within the article.

### Ethics approval

Approved by the Montefiore Research Committee for COVID-19 (RCC) with reference #2020/124011.

### Author contributions

JB, AKG, RF, PP, OW, BNM, REM, and CPH contributed patient information. KM and AD drafted the manuscript with

**Table 1** Baseline characteristics of patients presenting to Montefiore Medical Center and Jacobi Medical Center with telogen effluvium following COVID-19 infection

	All patients (n = 10)
Age in years, median (IQR)	55 (38–68)
Age >50 (%)	6 (60)
Female sex (%)	10 (100)
Race	
Black (%)	1 (10)
White (%)	4 (40)
Other or unknown (%)	5 (50)
Ethnicity	
Hispanic (%)	3 (30)
Not Hispanic (%)	4 (40)
Unknown or declined (%)	3 (30)
COVID-19 confirmation	
PCR testing (%)	6 (60)
Antibody testing (%)	4 (40)
COVID-19 hospitalization (%)	4 (40)

PCR, polymerase chain reaction.

Table 2 Characteristics of individual patients presenting to Montefiore Medical Center and Jacobi Medical Center with telogen effluvium after COVID-19 infection

Patient No.	Sex	Age	Medical conditions	Positive COVID-19 testing via	Duration of hospitalization for COVID-19	Medical treatment for COVID-19	Time after COVID-19 to presentation at dermatology clinic	Description of symptoms at dermatology visit	Physical exam findings	History of hair loss
1	F	57	Hypothyroidism NASH cirrhosis	PCR	4 days	Azithromycin Doxycycline	3 months	"hair is falling out a lot more"	Limited (telemedicine visit)	No
2	F	52	None	Antibody	N/A	Ceftriaxone None	3.5 months	"increased shedding for 1.5 months"	Limited (telemedicine visit)	No
3	F	19	Obesity PCOS	Antibody	N/A	None	4 months	"hair falling out in massive clumps and thinning along hairline"	Limited (telemedicine visit)	No
4	F	68	Hyperlipidemia Emphysema CKD Stage III Breast cancer	PCR	11 days	Hydroxychloroquine	3 months	"significant shedding and thinning of hair"	Positive hair pull test with many telogen hairs; pronounced thinning	No
5	F	65	Type 2 diabetes mellitus	PCR	5 days	None	3.5 months	"hair comes out in clumps when combing it"	Global loss of hair volume	No
6	F	41	Hyperlipidemia PCOS Obesity Type 2 diabetes mellitus	PCR	N/A	Doxycycline	3 months	"losing hair"	Unremarkable	No
7	F	38	Asthma Type 2 diabetes mellitus	PCR	N/A	None	4.5 months	"increased hair shedding"	Limited (telemedicine visit)	No
8	F	39	None	Antibody	N/A	None	6 months	"clumps and fistfuls of hair coming out when washing"	Areas of lower hair density with many vellus hairs on bilateral frontotemporal regions	No
9	F	76	Depression Asthma Hypothyroidism Osteoarthritis	Antibody	N/A	None	7 months	"hair falling out in chunks"	Limited (telemedicine visit)	No
10	F	69	Hyperlipidemia Hypertension	PCR	8 days	Azithromycin Ceftriaxone Hydroxychloroquine	5 months	"1.5 hairs come out when brushing hand through hair"	Limited (telemedicine visit)	No

NASH, nonalcoholic steatohepatitis; PCR, polymerase chain reaction; N/A, not applicable; PCOS, polycystic ovary syndrome; CKD, chronic kidney disease.

revisions provided by the remaining authors. All authors read and approved the final manuscript.

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