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Linkage disequilibrium score regression analysis was conducted to estimate heritability (b^2) and genome-wide genetic correlation (r_g) between MPB and COVID-19 phenotypes for approximately 1,000,000 autosomal SNPs.⁴ All MPB and COVID-19 GWASs had significant heritability ($9 \times 10^{-36} < P_{b^2} < 7 \times 10^{-6}$) and were subsequently utilized in the r_g analyses (Table I).

We found no significant r_g between the MPB and COVID-19 phenotypes (Table II). Furthermore, although not significant, the r_g and previously reported associations are not directionally consistent.¹ For example, the increased risk for MPB has a negative r_g with susceptibility ($r_g = -0.078$, $P = .1048$), hospitalization ($r_g = -0.019$, $P = .6485$), and severity ($r_g = -0.026$, $P = .5846$) of COVID-19.

Two possible limitations of this study need to be mentioned. First, the baldness pattern from UK Biobank is self-reported. Second, the linkage disequilibrium score regression r_g was estimated utilizing autosomal SNPs and therefore did not evaluate X-linked genetic factors, including the androgen receptor gene, which has been implicated in both MPB and severe COVID-19.⁵ However, the analysis of independent SNPs around androgen receptor gene found no correlation ($P > .05$) in risk effects between the MPB and COVID-19 GWAS phenotypes—consistent with the linkage disequilibrium score regression autosomal r_g results.

Although we found no evidence for a global genetic correlation across MPB and COVID-19 phenotypes, given pleiotropic effects, where genetic variants influence multiple traits, are widespread in human complex traits (<https://www.ebi.ac.uk/gwas/>), it is possible that other/specific genes, including genes on chromosome X, could contribute to MPB and COVID-19 risk—noting many pleiotropic variants with consistent effect directions are required to produce a significant genetic correlation.

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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.2021.05.009>

An increase in respiratory protection device injuries associated with the COVID-19 pandemic



To the Editor: The COVID-19 pandemic abruptly changed many people's lives. While social distancing, quarantining, and personal protective equipment (PPE) have positively impacted the pandemic's progression, ancillary consequences have occurred.^{1,2} Prior to the COVID-19 pandemic, the use of respiratory protection equipment was largely limited to health care and industrial settings. However, as PPE use by the general population increased, reports of dermatologic reactions have also increased.³ This study reports on the epidemiology of respiratory protection equipment-related injuries in the United States associated with the COVID-19 pandemic.

The data for this study was obtained from the National Electronic Injury Surveillance System

Table I. Demographic characteristics of persons sustaining emergency department treated face mask-related injuries in the United States, 2020

| | Number (N = 4976) | Percent |
|-------------|-------------------|---------|
| Age | | |
| <10 | 327 | 6.6 |
| 10-19 | 524 | 10.5 |
| 20-29 | 517 | 10.4 |
| 30-39 | 480 | 9.7 |
| 40-49 | 239 | 4.8 |
| 50-59 | 791 | 15.9 |
| 60-69 | 655 | 13.2 |
| 70-79 | 734 | 14.8 |
| ≥80 | 708 | 14.3 |
| Sex | | |
| Male | 1772 | 35.6 |
| Female | 3203 | 64.4 |
| Race | | |
| White | 2064 | 41.5 |
| Black | 2091 | 42.0 |
| Other | 821 | 16.5 |

(NEISS) for the period 2016 through 2020.⁴ The NEISS is a probability sample of approximately 100 hospitals and emergency rooms in the United States and is used to produce national estimates for emergency department treated consumer-product related injuries. Patient demographic and injury characteristics are abstracted from hospital medical record systems using standardized protocols. The injuries of interest in this study involved “Respiratory Protection Devices” (ie, NEISS Product Code 1618). Using this information, each injury was classified as due to rashes and/or allergic reactions, obscured vision, mask manufacturing, improper fit, or application issues.

From 2016 through 2019, approximately 200 face mask-related injuries were treated in the US emergency departments annually; 4976 persons were treated for such injuries in 2020, a 2400% increase. The injuries occurred across the lifespan, and most of those injured were women; White and Black patients were equally represented (Table I). The most common injury diagnoses were dermatitis (28.3%) and laceration (10.1%), with the face (72.5%), head (8.2%) and finger (8.1%) representing the most commonly injured body parts among patients with such diagnoses. The majority of injuries were attributable to rashes and/or allergic reactions (38%), followed by poorly fitting masks (19%), obscured vision (14%) and application issues (10%). Injuries related to obscured vision included falls and motor vehicle collisions. In addition, there was a small (5%) but a meaningful number of injuries, all among

children, attributable to consuming pieces of a mask or inserting dismantled pieces of a mask into body orifices (eg, nose, ear). Finally, injuries attributable to falls secondary to bending over to pick up a dropped mask (all elderly patients) and injuries associated with mask manufacturing were uncommon (3% and 2%, respectively).

There has been a dramatic increase in face mask-related injuries during the COVID-19 pandemic. This increase is mostly attributable to increased PPE utilization rather than changes in their inherent danger. The majority of injuries were due to contact dermatitis or skin abrasions. The latter was likely due to prolonged use; poorly fitting masks, leading to pain or shortness of breath, were also common. Of particular interest was the number of injuries attributable to obscured vision. The Centers for Disease Control and Prevention has published recommendations and resources to aid in the choice and proper fit of face masks.³ The current study results underscore the need for increased awareness of these resources to minimize the future occurrence of mask-related injuries.

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Funding sources: None.

IRB approval status: Exempt.

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.2021.07.015>

Time of onset and duration of post-COVID-19 acute telogen effluvium



To the Editor: During the COVID-19 pandemic, cases of acute hair shedding following the infection have been reported. Telogen effluvium (TE), a self-limiting cause of diffuse hair shedding, typically occurs 2 to 3 months after a triggering event, such as febrile state, stress, drugs, or postpartum.¹ We aimed to evaluate the onset and duration of acute TE post COVID-19.

Patients were recruited by 4 dermatologists in the United States, Brazil, and Spain, who agreed to provide retrospective data of patients with hair loss after COVID-19 infection, which was confirmed by reverse transcription polymerase chain reaction test for SARS-CoV-2. Only patients with monthly follow-up until recovery of hair loss were eligible. Diagnosis of TE was based on dermatologist evaluation, using mainly trichoscopy (Fig 1) and pull test, with 1 patient confirmed by biopsy. Background information gathered included sex, age, country of residence, pertinent medical history, date of reverse transcription polymerase chain reaction, recovery from symptoms, date of TE onset and cessation, patchy alopecia upon resolution, and

medications. Patients continued their prescribed medications throughout COVID-19 infection (Supplemental material available via Mendeley at <https://doi.org/10.17632/bsn65bztxy.4>).

Among the 30 cases, 9 (30%) were men, and 21 (70%) were women. The median age was 40.5 years (interquartile range = 13). Overall, 26.7% of patients (5 men, 3 women) had a history of androgenetic alopecia. The onset of acute TE occurred at a median of 45 days (interquartile range = 13) after a positive reverse transcription polymerase chain reaction test. The median duration of TE was 47.5 days (interquartile range = 45), ranging from 12 to 100 days. One patient presented with patchy alopecia in the occipital area, diagnosed as pressure alopecia from prolonged intensive care admission. 53.3% of patients reported concomitant medication use. Trichoscopy showed empty hair follicles, as expected for TE (Fig 1, A).

Acute TE post COVID-19 appears to occur sooner than when triggered by usual events, at a median of 1.5 months. In a multicenter study of 214 cases of acute TE post COVID-19, Moreno-Arrones et al² noted an average of 57.1 days to onset. Trüeb et al³ similarly observed early onset effluvium in 5 consecutive cases of confirmed SARS-CoV-2 infection. Although typical acute TE takes 3 to 6 months to cease, resolution of most of our cases was observed before 2 months.¹ Factors such as hypoxia, inflammation, metabolic abnormalities, medications, and the eventual need for mechanical ventilation could play a role in the development and severity of TE. The intensity of the effluvium and earlier onset could be related to the individual severity of COVID-19. As previously studied,

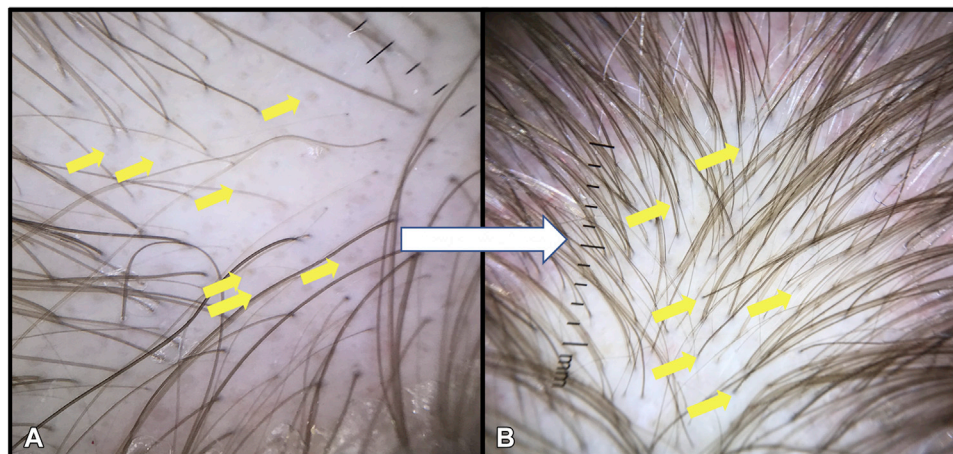


Fig 1. Acute telogen effluvium post COVID-19 in 1 female patient with androgenetic alopecia background. **A**, Trichoscopy shows empty follicles (*yellow arrows*) and hair shaft variability. **B**, After 4 months, the resolution of empty follicles and the presence of short hair shafts (*yellow arrows*) growing after TE can be seen.