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Telogen Effluvium and COVID-19

September 21, 2022

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There are a variety of different pathologies that can contribute to hair loss, including noncicatricial alopecia such as androgenic alopecia, alopecia areata, and telogen effluvium as well as cicatricial alopecia such as lichen planopilaris.[1] In this blog post, we'll be focusing on telogen effluvium.

Telogen effluvium may be acute or chronic. The acute form, the focus of this blog post, is defined as hair shedding that lasts for less than 6 months. Typically, this hair loss is precipitated by a stressor event that causes termination of the anagen (hair growth) phase and moves hair follicles into the telogen (resting) phase. The actual loss of hair occurs between two to three months after the trigger.[2]

Potential triggers for telogen effluvium include certain medications (beta blockers, androgens, angiotensin-converting enzymes (ACE) inhibitors among others), physiologic stress, emotional stress, and even certain medical conditions such as hypo or hyperthyroidism.[3] Since telogen effluvium may be precipitated by stressor events that include acute illness and febrile disease, several studies have been completed reviewing the prevalence of telogen effluvium hair loss in patients who had been diagnosed with COVID-19.

One observational cross-sectional study of 198 patients who had been admitted for COVID-19, found that of the interviewed patients, 48(24%) reported signs of hair loss. In this study, Telogen effluvium was noted to be equal across both sexes, and patients tended to report excessive hair loss several weeks to months after infection.[4] Another observational study that looked at 39 patients with post-COVID-19 hair loss found acute telogen effluvium in patients with mild or moderate disease that did not require hospitalization. All patients

began experiencing excessive hair loss within two to three months after the infection.[5] One meta-analysis evaluating Post-COVID-19 manifestations noted hair loss as occurring in 25% of patients.[6]

Typically telogen effluvium is self-limiting and most patients who report hair loss did see resolution within three to six months, though it was noted that it took up to 18 months for hair thickness to return to baseline and some patients did receive treatment to manage hair loss during this time.[6]

Due to the unique mechanism of telogen effluvium mediated hair loss, treatments may differ from therapies often used to treat other types of alopecia such as androgenetic alopecia. Unfortunately, perhaps due to the typically short-lived nature of acute telogen effluvium compared to long term alopecia conditions, few studies exist regarding the treatment of this condition.

One article evaluating caffeine for topical use discussed a possible benefit for the use of topical caffeine to treat telogen effluvium and proposed that increased metabolic activity and cell proliferation associated with caffeine may provide a benefit for hair loss.[7] A study reviewing 1% caffeine in a shampoo vehicle for females suffering from telogen effluvium noted decrease in hair loss in over half of participants with daily application.[8] One study of COVID-19 induced telogen effluvium noted that minoxidil (commonly minoxidil 5% for topical use) was the most commonly prescribed treatment, with steroids (such as triamcinolone lotion or clobetasol foam) or vitamin supplementation, such as with vitamin B6 products also being used commonly.

Unfortunately, efficacy of these various treatments was not reported in the study.[6] Though studies focused on the management of COVID-19 induced telogen effluvium are not currently widely available, there is some available information on these APIs for acute or chronic telogen effluvium in general.

A large retrospective cross-sectional study found that many patients suffering from telogen effluvium had concomitant nutritional deficiencies, in particular, 45.2% of patients had deficiencies in ferritin, making it the most common deficiency, followed by vitamin D at 33.9% and zinc at 9.6% of patients demonstrating deficiency.[9] One recent study evaluated the role of supplementation of vitamins and minerals for the management of telogen effluvium. Collagen, calcium pantothenate, pyridoxine HCl, ferric pyrophosphate, and zinc sulfate among others were all administered to patients.

The study noted that patients had an increase of hair in anagen as compared to telogen phase and that higher hair density and quality was observed between visits at baseline and 16 weeks.[10] Another study of chronic telogen effluvium in women noted that oral minoxidil (dosed between 0.25-2.5mg daily) was associated with a decrease in hair shedding.[11]

Despite its increasing prevalence and its association with acute illness such as COVID-19, little information currently exists on the management and treatment of telogen effluvium. Oftentimes the condition is acute and will resolve on its own over a period of months, if treatment is indicated, some limited evidence supports the use of interventions such as topical caffeine, minoxidil, and vitamin and mineral supplementation in patients who may be deficient.

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