

Telogen Effluvium Occurring 22 Days After A Motor Vehicle Accident

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Introduction

A 28-year-old male experienced sudden hair loss, waking up to find half of his hair on his pillow and sheets. This occurred 22 days after a motor vehicle accident, during which he was emotionally distressed, fearing he had injured someone-though it was later confirmed that there were no reportable injuries. Upon examination, his scalp exhibited a moth-eaten pattern of hair loss, prompting him to shave his head. Treatment involved a 20/10/5 mg taper of oral prednisone over nine days, three days for each dosage level. Routine blood tests showed normal values, and the RPR test was negative. The case was notable for the early onset of telogen effluvium (TE) within 22 days of the inciting event, rather than the typical 2 to 3 months. Hair regrowth on the top and front of his scalp was significantly slower than on the sides and back, with his hairline taking 10 months to return to its normal appearance.

Telogen effluvium (TE) is form of nonscarring alopecia characterized by a diffuse, non-scarring shedding of hair [1,2]. This hair loss is a reactive process, that occurs in a non-specific reaction pattern. TE typically develops 3-4 months after the causative event, with alopecia occurring when 40% of hairs has been shed [1,3]. Patients will report hair shedding, without any other symptoms. A careful history often will identify the cause occurring between one and six months (usually at about 3 months) [1]. Hair follicles have 3 phases- anagen (growth), catagen (transformation) and telogen (rest), with shedding of the hair follicle at the end of the telogen phase [1]. TE is characterized by a marked shift in the number of follicles to the telogen phase, resulting in shedding [1]. Specifically, there is an abnormal shift in follicular cycling of the hair that leads to premature shedding [1]. Normally, 85% of hair follicles are in the anagen phase and 15% of hair follicles are in the telogen phase [1]. While the

mechanism of telogen effluvium is not known, it is accepted that an identifiable or occult physiologic event stimulates a change in follicular cycling [1]. TE has been documented to arise from various inciting factors including but not limited to: childbirth, drugs, nutritional deficiency, and physiological stress [2]. When there is some type of stress to the body, it can

cause 70% of anagen hair to go into the telogen phase leading to hair loss [1]. Acute TE is defined as hair shedding lasting less than six months. Hair loss usually occurs two to three months after the trigger exposure. In 33% percent of cases the cause remains unknown [2]. Acute TE related hair regrowth occurs between 6-12 months [1].



Figure 1: Initial TE and one month later.

A,B: Photos taken October 20,2023- Notice the moth-eaten appearance. Initial TE. **C:** Photo taken on October 21,2023- Patient shaved his head for a uniform appearance. **D:** Photo taken on November 19,2023- Hair has begun to regrow after a month of TE.



Figure 2: Hair at 1,3, and 6 months post TE.

E: November 25,2023 ~1 Month; **F:** April 23,2024- 6 Months; **G:** January 1st ,2024- The top and frontal hair have less density than the sides and posterior; **H:** Feb 23,2024.



Figure 3: July 4 2024: Hairline has returned to normal after 10 months of TE.

Na	136 mmol/L	Normal
K	3.3 mmol/L	Low
Cl	100 mmol/L	Normal
CO2	28 mmol/L	Normal
BUN	23 mg/dL	Normal
Creatine	0.97 mg/dL	Normal
Glucose, Random	76 mg/dL	Normal
Calcium	9.6 mg/dL	Normal
Folate	15.6 ng/mL	Normal
B12	534 pg/mL	Normal
Vitamin D 25-Hydroxy	59 ng/mL	Normal
WBC	8.75 10 ³ / uL	Normal
RBC	5.64 10 ⁶ / uL	Normal
Hemoglobin	15.9 g/dL	Normal
Hematocrit	47%	Normal
MCV	83 fL	Normal
MCH	28 pg	Normal
MCHC	34 g/dL	Normal
Ferritin	120 ng/mL	Normal
TSH	3.268 uIU/mL	Normal
DsDNA Antibodies	Negative	
ANA	Negative	
RPR	Negative	

Table 1: Blood work on 10/23/2023.

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