

Reversible Hair Loss due to Levothyroxine Overdose

Sir,
Thyroid hormones along with estrogen, glucocorticoid,

retinoids, prolactin, and growth hormone modulate hair growth.^[1] Hyperthyroidism and hypothyroidism both are



Figure 1: Clinical picture showing reversible scalp hair loss. (a and b) At the time of diagnosis, before starting thyroxine supplements. (c-e) 30 days after starting levothyroxine (50 µg/day). (f and h) 45 days after reducing levothyroxine dose

associated with hair shaft abnormalities.^[2] Here, we report a case of an infant with congenital hypothyroidism who suffered diffuse hair loss due to levothyroxine overdose.

A 9-month-old female infant, born of non consanguineous marriage, presented to our hospital with partial neck holding and developmental delay. The infant weighed 6900 g (3rd-15th percentile) and was 67 cm long (3rd-15th percentile). Physical examination revealed lethargy, hoarseness, dry skin, depressed nasal bridge, and macroglossia [Figure 1a and b]. The results of the laboratory tests were suggestive of congenital hypothyroidism (Total T3-25 ng/dL, total T4-0.01 µg/dL, TSH>150 µIU/dL). Ultrasonography of neck revealed agenesis of thyroid gland. Infant was started on levothyroxine 50 µg/day (7.24 µg/kg/day). Fifteen to twenty days after starting levothyroxine, infant's mother noticed diffuse loss of scalp hairs. On examination, infant had non-scarring alopecia involving around 50-60% of the scalp area [Figure 1c-e]. At this stage, serum T3 and T4 levels were quite high and TSH was suppressed (Serum free T3 = 6.13 pg/ml, free T4 = 2.74, TSH = 0.039 µIU/dL). Levothyroxine overdose was suspected as the cause of effluvium hence dose was reduced to 37.5 µg/day. Follow up after 45 days showed marked regrowth of hair [Figure 1f and g] which was normal in texture and distribution while on levothyroxine maintenance dose. To conclude, levothyroxine overdose may lead to hair loss and should be watched for.

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Conflicts of interest

There are no conflicts of interest.

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