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A Case Report of Biotin Treatment for Valproate-Induced Hair Loss

To the Editor: Telogen effluvium (diffuse alopecia) resulting in excessive hair loss is a very unpleasant side effect of valproate treatment, most often occurring in the first months of treatment. The pathophysiologic mechanism is not well understood. Yet, a disruption of the biotin metabolism by valproate has been suggested as a possible cause.^{1,2} Biotin deficiency was recently found in 38% of the cases in a sample of women with hair loss.³ Previous research showed efficacy of biotin treatment in cases of children with epilepsy and valproate-induced hair loss.⁴ Here, we present a case of successful introduction of biotin treatment in an adult patient with bipolar disorder.

Case report. Ms A had bipolar I disorder and had been on lithium monotherapy since age 23; this therapy was continued for 18 years, with 2 drug-free intervals followed by manic episodes. At 42 years of age, Ms A's tubular interstitial nephritis had progressed to a degree at which lithium was replaced by carbamazepine monotherapy.

After 4 years, carbamazepine-associated deterioration of liver functions necessitated a switch to valproate, with good clinical effect. However, she developed telogen effluvium 1 month after the introduction of valproate treatment with no other significant side effects. No other associated risk factors for hair loss could be identified. At 9 months after starting valproate, severe hair loss was still present, and she developed serious doubts about the continuation of valproate.

Ms A was treated with 10,000 µg of biotin daily, with no side effect. Three months later, her excessive hair loss completely disappeared, and she was content to have her usual hair volume again. Twelve months later, the biotin treatment was tapered off at her request. Now, 7 years later, with the patient still successfully on valproate treatment, no recurrence of hair loss has developed.

First, we would like to underline that this is but a single observation. Case reports such as this one have serious

methodological flaws, such as the possibility of a psychogenic cause of the telogen effluvium or a self-limited course. The present case report is in line with the scarce literature suggesting that micronutrient deficiencies can play a part in hair loss pathophysiology.

As hair loss can have various causes, we recommend checking blood count, liver functions, endocrine functions (thyroid dysfunction, hyperandrogenism, hyperprolactinemia), and nutritional status (zinc, iron, proteins). When other possible causes are excluded, dose reduction of valproate can be considered as well.

Still, the present case suggests that adding biotin can be a simple, safe, and effective treatment option for a subgroup of patients with valproate-induced hair loss.

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