Alopecia Associated with Use of Methylphenidate: A Case Series

Sundar Gnanavel, Sharafat Hussain

ABSTRACT

In this case series, we report three cases of alopecia associated with use of methylphenidate for ADHD (Attention deficit hyperactivity disorder), that reversed with discontinuation of methylphenidate.

Key words: ADHD, alopecia, methylphenidate

Methylphenidate is a stimulant drug considered the first-choice medication for attention-deficit hyperactivity disorder (ADHD). Although drug-induced alopecia is a common adverse effect with a variety of medications, alopecia with methylphenidate is a rarely reported side effect. In this case series, we present three children and adolescents with ADHD who developed severe alopecia with methylphenidate and improved with discontinuation of the same.

CASE REPORTS

Case 1
Mstr LB is a 9-year-old boy diagnosed with ADHD based on poor attention span, forgetfulness, fidgetiness, restlessness, and reckless behavior in multiple settings including school and home. He was started on immediate-release methylphenidate 5 mg/day which was slowly titrated upward. After about a week of increase in the dose of methylphenidate to 30 mg/day, both the child and his parents noticed some hair loss initially in the temporal region. The hair loss progressed rapidly in the next 2–3 weeks, with patches of lost hair in temporal and parietal scalp regions, with the scalp clearly visible in these areas. The medication was stopped, and he was started on lisdexamfetamine. Within 3–4 weeks of stopping methylphenidate, regrowth of hair follicles was noted, and he regained his hair in around 3 months.

Case 2
Ms NT is a 13-year-old girl who presented to our clinic with a poor concentration in school lessons and being bouncy, always “on the go,” impatient, and impulsive in different settings as described by her parents. She was diagnosed with ADHD and started on longer-acting preparation of methylphenidate (Concerta XL) 18 mg which was subsequently increased to 27 mg

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once daily. Subsequently, within a week, she noted diffuse hair loss and thinning of hair which progressively worsened (with an obvious decrease in hair thickness as commented by her friends and family). Discontinuation of methylphenidate and switch to atomoxetine resulted in gradual regrowth of hair over the next 3 months.

Case 3
Mstr WG is a 12-year-old boy who presented to our clinic with risky behaviors, including running across roads unsupervised, highly distracted during school lessons, poorly organized, hyperactive, and finding it difficult to remain still. He was diagnosed with ADHD and started on immediate-release methylphenidate 5 mg/day. The dose was gradually increased to 20 mg/day. He responded well to the medication. However, within a fortnight of increasing the dose to 20 mg, his parents started to notice patchy hair loss in the frontal and parietal region (with scalp being visible in these areas clearly). Discontinuation of methylphenidate and switch to atomoxetine resulted in gradual regrowth of hair over the next 6 months.

There were no losses in the eyebrows, eyelashes, or elsewhere in any of these cases. They were not taking any other medication for ADHD or otherwise. There was no personal or family history of hair loss. Trichotillomania with medication for ADHD has been reported, and this was explored as a possibility. No pulling of hair suggestive of trichotillomania was reported by patients and corroborated by parents. The patients were investigated for common physical causes of hair loss, including complete blood counts, biochemical analysis, folic acid, vitamin B12, thyroid function tests, and serum iron. All the investigations were normal. In all these cases, there was a clear temporal association between onset of hair loss and increase in dose of methylphenidate as well stopping medication and reversal of hair loss. Opinion from physician suggested, drug-induced hair loss as the possible explanation since other possibilities were ruled out by investigations. According to Naranjo’s algorithm, the drug-related adverse effect can be classified as “probable” adverse drug reaction (score-6).

To the best of our knowledge, there is only one previous case report of alopecia with methylphenidate. Atomoxetine, the second-line choice for ADHD, has been implicated in alopecia as well. This has definite implications on compliance to medication as hair loss can be associated with psychological distress and effect on mental health particularly in adolescents. While the exact pathophysiological mechanism behind this remains unknown, the possibility of a direct toxic effect on the hair follicles remains a possibility. Research into the precise mechanism of hair loss due to methylphenidate and ascertaining if this is a dose-related or a nondose-related side effect is essential to shed more light. In addition, exploring any patient or environmental characteristics that make a patient more vulnerable to methylphenidate-induced alopecia might be helpful in planning further management.

Declaration of patient consent
The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest
There are no conflicts of interest.

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