Alopecia Following Initiation of Lisdexamfetamine in a Pediatric Patient

To the Editor: Lisdexamfetamine, a prodrug of dextroamphetamine, is indicated for the treatment of attention-deficit/hyperactivity disorder (ADHD) in both pediatric and adult patients.[1] One of the advantages cited includes an inactive prodrug status.[2] The side effect profile is consistent with other stimulants. In children aged 6–12 years old, the most common adverse reactions by frequency are decreased appetite, insomnia, upper abdominal pain, and irritability.[1] Alopecia or diffuse hair loss has not been reported in the manufacturer's information or with postmarketing analysis of adverse drug effects reported to poison centers.[3] As confirmed by a PubMed literature search utilizing the search terms *alopecia* and *lisdexamfetamine*, we report the first case of diffuse thinning hair loss secondary to lisdexamfetamine use in a pediatric patient.

Case report. The patient, a 5-year old white girl, was referred in 2008 for evaluation of behavior concerns at school and home. Prior to presentation at our clinic, her caregiver tried several products from a health food store without success. A complete assessment was performed in conjunction with information from the school and home. She met *DSM-IV-TR* criteria for the diagnosis of ADHD, combined type. A trial of extended-release mixed amphetamine salts 5 mg/d was initiated. Some improvement was noted over the first 2 weeks, especially at school. The dose was increased to 10 mg/d with substantial improvement. This dose worked well until the early afternoon when her medication would wear off. At that time she became irritable and emotional for several hours.

Some mild appetite suppression during the day was experienced, which resolved in the afternoons. No substantial weight change was noted at the 1-month follow-up visit. During this visit options were discussed and a trial of lisdexamfetamine 30 mg was started. Mild nausea resolved after the first day. Five days after the start of lisdexamfetamine, the caregiver called, alarmed about hair loss. No bald areas were reported but generalized hair loss noticed on brushing was reported. Lisdexamfetamine was discontinued and the patient was medication-free for 2 days. During that time, it was reported that the hair loss stopped. At the caregiver's request, treatment with extended-release mixed amphetamine salts 10 mg each morning was restarted. To date no further problems with hair loss have been noticed.

Alopecia secondary to amphetamine use was reported as early as the 1960s when amphetamines were used for weight loss.[4,5] The mechanism was not identified.[6] The type of hair loss experienced in our patient was a general diffuse thinning, consistent with previous reports,[4–6] rather than isolated or discrete areas of hair loss seen in alopecia areata.[4–6] The onset of the thinning occurred 5 days following therapy initiation and was less marked 2 days following discontinuation. Hypothyroidism was not suspected as the caregiver reported consistently high motoric activity and the absence of constipation. Applying the Naranjo algorithm to evaluate the probability of an adverse drug reaction yielded a score of 7, indicative of a probable medication-related event.[7] The temporal connection to presentation and resolution was also supportive of a medication effect. The authors encourage clinicians prescribing lisdexamfetamine to be aware of the potential for this effect.

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