

Hair That Does Not Grow

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Question

A 5-year-old boy was referred to our consultation because of short and fine brown scalp hair that had not been cut since birth. He was the firstborn of healthy, non-consanguineous parents. Pregnancy and perinatal period had been uneventful. He was healthy and his physical and mental growth was normal. No abnormalities of skin, nails or teeth had been reported. Both parents had normal scalp hair growth and family history was negative for any kind of hair loss or hair disease.

Clinical examination revealed short and fine hair distributed in a normal pattern with mildly decreased overall

density (fig. 1). Pull test was positive on the whole scalp. His eyelashes, eyebrows and body hairs were normal in length and pattern. The rest of the physical examination was normal, without any abnormalities of skin, teeth or nails.

A trichogram from the parietal region showed a decreased anagen to telogen ratio of 22/78 (against 90/10 in normal condition) with all hair presenting tapered tips rather than cut ends, indicating that hair had never been cut (fig. 2).

What is your diagnosis?



Fig. 1. Clinical pictures of our patient's scalp showing abnormally short and fine scalp hair that has never been cut.



Fig. 2. Trichogram showing a reduced anagen to telogen ratio of 22/78 (normal: 90/10) and telogen hairs with tipped points.

Answer

Short anagen syndrome.

Short anagen syndrome (SAS) is a condition in which hair does not grow long because of a shortened anagen phase. The disorder is characterized by an increase in telogen hair and in hair shedding and by a reduction in maximum hair length.

The existence of short hair due to a short anagen cycle was first described by Kersey in 1987 [1] in a patient with a trichodontal syndrome. In 2000, Barraud-Klenovsek and Trüeb described two cases of congenital hypotrichosis related to a SAS, without any associated abnormalities. The study showed a familial history in one patient, with probable autosomal dominant inheritance [2]. More recently, Antaya et al. [3] in 2005 and Giacomini et al. [4] in 2011 reported one case of idiopathic SAS without familial history and without any other abnormalities, as in our case.

The diagnosis of SAS must be considered when a patient is complaining that 'hair does not grow' and that 'hair has never required to be cut'. The diagnosis of SAS is confirmed by a clinical evaluation, which will exclude other skin and adnexa abnormalities, and by a trichogram. The latter reveals a reduction in anagen to telogen ratio, with all hair presenting tapered tips rather than cut ends, indicating that hair has never been cut [4]. The pull test is positive in most cases, however in our experience a negative pull test can also occur.

The main clinical differential diagnosis is loose anagen syndrome (LAS). LAS is another benign congenital hypotrichosis where anagen hair is easily extracted. LAS can easily be distinguished from SAS using the trichogram, which shows an absence of telogen hair and a very high prevalence of anagen hair devoid of its sheaths [5]. In LAS, the hair does not grow long because of a defective adhesion of the hair shafts to the follicle. Transmission seems to be autosomal dominant, even if sporadic cases have been reported [6].

The treatment options for SAS are poorly documented and limited. Spontaneous improvement of hair growth

after puberty was described in some reports [2] but not in others [7]. Although topical minoxidil 5% has been used, its efficacy is not yet well established. Minoxidil stimulates hair growth by stimulating telogen hair follicles to enter into the anagen phase and by prolonging the anagen phase. Thus, topical minoxidil would seem to be an appropriate treatment for this disorder, even though there is still no proof of its efficacy.

Statement of Ethics

The patient's consent was obtained.

Disclosure Statement

The authors have no conflict of interest.

Key Words

Hair loss · Children · Hair cycle

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