

An Incomplete Circle of Alopecia: A New Case of Halo Scalp Ring?

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Sir,

An 18-month-old black girl was referred to us because of a large, eccentric and incomplete circle of alopecia, about 10 cm in length, extending over the frontal and the right temporo-parietal area of the skull (Fig. 1). The skin was completely bald, smooth, not erythematous, oedematous or atrophic. Exclamation-mark hairs were not detectable at the margins of the lesion. A pull test showed only two hairs. The parents denied trichotillomania and traumas in the area of alopecia. The baby was born to a 20-year-old primigravida with a programmed caesarean section, at the 38th week of gestation. The mother, who suffered from diabetes mellitus, did not have premature rupture of the membranes. The parents noted that the alopecia was not present at birth but had started about 4 weeks after delivery and had progressively extended in size during the next 3 months. We did not prescribe any treatment. Six months after the first visit, when the girl was 2 years old, alopecia had completely disappeared.

Due to the anamnesis and the clinical features we made a diagnosis of halo scalp ring (HSR), even though we could not completely exclude an unusual form of alopecia areata or a pressure alopecia.

The term HSR, introduced by Neal et al. in 1984 (1), describes an annular scalp alopecia that arises perinatally and may present as a temporary and non-scarring alopecia or as a permanent hair loss. HSR usually occurs in babies born to primigravidas, especially after a troublesome delivery, and is attributed to a caput succedaneum (CS). CS is a cranial subcutaneous serohaematic extravasation, with a good prognosis, resolving in a few days without sequelae, and is related to cervical, uterine or vaginal pressure (2–4). Premature rupture of membranes seems to be an important predisposing factor for the occurrence of CS (2, 3). Sometimes CS is associated with a reduced cutaneous blood flow, necrosis and tissue damage which, if permanent, results in cicatricial alopecia. To date, five of the 11 cases of HSR reported in the literature presented permanent hair loss (2, 4–6).

It is likely that as HSR is a self-healing condition without sequelae in about half of the cases and is a form of alopecia that has been reported only once in the paediatric literature, it is underestimated rather than rare, and not familiar to paediatricians (3).

Many aspects make our case peculiar. Of the predisposing factors to HSR, including first pregnancy, troublesome delivery and premature rupture of the membranes, only the first factor was present. The pa-

rents also denied CS at birth and stated that the annular alopecia had gradually developed in the first months of life, while most of the reported patients presented HSR at birth or shortly after delivery. Moreover, only 2 of the other 11 reported cases have occurred in children delivered by caesarean section, as in our case (3).

Clinical presentation and hair regrowth allowed us to rule out sebaceous naevus, triangular congenital alopecia and aplasia cutis congenita. The absence of exclamation-mark hairs made a diagnosis of alopecia areata unlikely; the latter may also occur in newborns and in infants (7). An alopecia due to obstetrical procedures performed on the fetal scalp was excluded on the basis of the anamnesis. Personal history was also negative for traumas after birth. We also speculated whether the alopecia might be caused by the pressure of a cap worn for a long time by the baby or by a prolonged position during sleep. Such hypotheses were not confirmed by the anamnesis. Moreover, most of the cases of pressure alopecia are observed in immobile patients or in patients who have undergone prolonged surgical operations. In this last case, the term postoperative alopecia is used (8, 9).

We therefore made a diagnosis of HSR, caused by the pressure of the cervix or the vagina on the fetal presenting part, before the delivery. Such pressure was too weak to provoke a CS but was able to cause local damage and the onset of the alopecia. To the best of our knowledge this is the first case of HSR not related to a CS. It is important to remember that HSR is a benign



Fig. 1. Large, eccentric and incomplete circle of alopecia, extending over the frontal and the right temporo-parietal area of the skull.

condition that does not require further investigations for central nervous system abnormalities.

REFERENCES

1. Neal PR, Merk PF, Norins AL. Halo scalp ring: a form of localized scalp injury associated with caput succedaneum. *Pediatr Dermatol* 1984; 2: 52–54.
2. Prendiville JS, Esterly NB. Halo scalp ring: a cause of scarring alopecia. *Arch Dermatol* 1987; 123: 992–993.
3. Tanzi EL, Hornung RL, Silverberg NB. Halo scalp ring. A case series and review of the literature. *Arch Pediatr Adolesc Med* 2002; 156: 188–190.
4. Beutner KR. Halo ring scarring of alopecia. *Pediatr Dermatol* 1985; 3: 83.
5. Das S. Permanent baldness following caput succedaneum. *J R Coll Gen Pract* 1980; 30: 428–429.
6. Morykwas MT, Beason ES, Argenta LC. Scalp necrosis in a neonate treated with cultured autologous keratinocytes. *Plast Reconstr Surg* 1991; 87: 549–552.
7. Crowder JA, Frieden IJ, Price VH. Alopecia areata in infants and newborns. *Pediatr Dermatol* 2002; 19: 155–158.
8. Whiting DA. Traumatic alopecia. *Int J Dermatol* 1999; 38, (Suppl 1): 34–44.
9. Dominguez-Aunon JD, Garcia-Arpa M, Perez-Suarez B, Castano E, Rodriguez-Peralto JL, Guerra A, et al. Pressure alopecia. *Int J Dermatol* 2004; 43: 928–930.