

# CICATRICIAL ALOPECIA: A COMPLICATION OF VACUUM EXTRACTION\*

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## SUMMARY

*A case of traumatic cicatricial alopecia caused by the use of a vacuum extractor at birth is reported. The important features in the pathogenesis are the prolonged extraction time (in excess of 20 minutes), and the secondary infection at the site of application.*

Few cases of permanent cicatricial alopecia<sup>1-4</sup> resulting from trauma caused by a vacuum extractor have been reported. We have recently seen a patient with this condition and consider it worthy of documentation.

## CASE REPORT

An otherwise normal, healthy 9-month-old male child had a circular area of alopecia 7 cm in diameter on the vertex. A single tuft of hair was present centrally. Clinically, there was gross scarring in the area of hair loss, and a biopsy confirmed the presence of an excess of fibrous tissue and the absence of adnexal structures. Milestones were normal and there were no other complaints.

The child was delivered with the aid of a vacuum extractor because of foetal distress and pre-eclamptic toxæmia. A No. 3

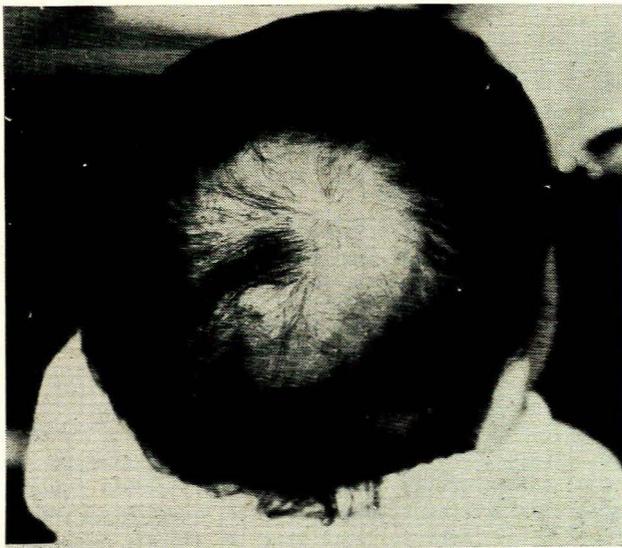


Fig. 1. Cicatricial alopecia on vertex.

vacuum cup was applied initially for 15 minutes at a negative pressure of 0.7 kgm/cm<sup>2</sup>. The cup slipped off with the posterior rotation of the head and a No. 4 cup was applied for a further 15 minutes. The total extraction time was 40 minutes. At birth, the baby was noted to have marked cephalhaematoma formation associated with a laceration of the scalp at the site of the vacuum extractor application. The wound became infected, and a swab grew *Staphylococcus aureus* sensitive to neomycin, which was applied locally. Chloramphenicol was given orally. The baby made an uneventful recovery and was discharged 3 weeks later.

## DISCUSSION

The vacuum extractor devised by Malstrom has been in use for about 10 years. Its action depends on the development of an artificial *caput succadaneum* (chignon) by the application of negative pressure to the scalp via a metal cup. The chignon is used as a point of traction during delivery and in this way the scalp becomes vulnerable to trauma.

Injury is usually minor, consisting of small ecchymoses, tiny ulcers, cephalhaematoma and abrasions associated with temporary alopecia. Rarely, scalp damage can be severe, and lead to scalp necrosis and subsequent scarring alopecia. Nyirjesy *et al.*<sup>5</sup> note that the incidence of scalp injury increases with the duration of suction application. They further state that scalp lesions were seen 7 times more frequently in cases in which the extraction time was more than 20 minutes. This observation was confirmed by Kessler.<sup>6</sup> A second important feature would appear to be the presence of secondary infection. In both Hall-Smith's<sup>4</sup> and our cases, infection was a prominent feature; this would certainly increase the degree of scarring. In a personal communication to Hall-Smith, Chalmers<sup>4</sup> quoted a case in which an area of trauma had healed with a linear scar. Infection was absent.

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