Under pressure? Alopecia related to surgical duration

Editor—We would like to share a rare and preventable case of pressure alopecia that emphasizes the importance of intraoperative pressure relieving manoeuvres. Figure 1 is a photograph of a 49-yr-old man who reported patches of hair loss during a postoperative follow-up appointment. Three weeks prior to the consultation, he had undergone a lengthy microsurgical procedure. A large morphoeic basal cell carcinoma was resected from his left cheek. A free anterolateral thigh flap was used to reconstruct the defect in a procedure that took 9 h and 45 min. The patient had a past medical history of myocardial infarction (MI), anxiety state, and he smoked 15 cigarettes a day.

Figure 1 demonstrates a ring-shaped pattern of alopecia. This was assumed to be due to pressure-related ischaemia of the hair follicles caused by prolonged intraoperative immobilization with the patient lying supine with the scalp rested in a head ring. Fortunately, the hair growth returned and was near normal at 6 months.

There are many cases of similar pressure-related postoperative alopecia documented. It may present within the first postoperative week as a swollen, painful, or ulcerated area on the scalp or as alopecia at postoperative clinic visits; most present within 1 month of surgery.1–3 The alopecia may be scarring or non-scarring, temporary or permanent. The aetiology is thought to be due to prolonged pressure leading to local hypoxia and tissue ischaemia and is associated with anaesthetic immobilization with the highest risk of permanent hair loss in those patients undergoing periods of anaesthesia over 24 h.1 One review article documented occurrence in operations with as short an anaesthetic time as 3 h (median 6 h),2 while another in a paediatric population ranged from 4.4 to 7.1 h.4 Hypotension and hypoxaemia may be contributing factors while the Trendelenburg position, obesity, and psychiatric disorders have been implicated as linked.1 2 4 5 In the patient we present, the lowest arterial pressure documented in the intraoperative period was 80/50 and he remained normothermic throughout, but the history of ischaemic heart disease is suggestive of microvascular pathology that may have contributed to the development of alopecia.

Figure 1 demonstrates a ring of alopecia, indicating that the patient was positioned on a gel head ring. Such a pressure-relieving device is instigated precisely to alleviate such tissue trauma. We surmise that a head ring is not sufficient prophylaxis in cases of prolonged anaesthetic immobilization typical of microsurgical reconstructive procedures (previously suggested as a solution).5 While many case reports support resolution of alopecia within several months, treatment options with topical corticosteroids or minoxidil have no proven efficacy and therefore vigilance about positioning and primary prevention are important.5 We would like to stress the importance of regular pressure relieving manoeuvres to guard against postoperative alopecia. Vigilance for the condition along with regular head repositioning (one study suggested 30 min intervals)7 and scalp massage should be considered if permitted by the nature of surgery. Consideration for the need for specific head rests including head rings should be made. Patients should be counselled for rare but possible risk of hair loss within the preoperative anaesthetic visit in those patients deemed at increased risk.

Acknowledgement

Published with the written consent of the patient.

Declaration of interest

None declared.
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doi:10.1093/bja/aeu252