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Venous lakes: treatment by infrared coagulation

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Summary—A new treatment for venous lakes (Bean and Walsh, 1956) has been devised using an infrared coagulator. The solid light guide with its sapphire cap enables the ectatic vessels to be compressed prior to coagulation, minimising the energy required to destroy the vessels. We have successfully treated 10 lesions with a pulse duration of 1.125 seconds.

Venous lakes are common vascular structures which occur predominantly on the ears, face and lips. Their main features were described by Bean and Walsh (1956). Ninety-five per cent are found in men and the average age at presentation is 65. They may be multiple and vary in size from 1 to 5 mm. They are readily compressible little bags of blood with a blue-purple colour. Microscopically they comprise dilated veins with thin walls, flattened endothelium and scant fibrous tissue. No proliferation of vascular elements is seen, so they should not be considered as true angiomas.

These lesions may bleed recurrently after minor trauma and they are unsightly. Methods of treatment include excision, electrodesiccation and fulguration. Cryotherapy has its advocates and, recently, treatment with an argon laser was reported as being successful (Landthaler *et al.*, 1984). Using an infrared coagulator we have successfully treated 10 lesions. This technique has the singular advantage that one can compress the lesion and empty it of blood before coagulation. The injury is also repeatable (Colver *et al.*, 1986a) so that precise treatment can be given on the first occasion.

Method

An infrared coagulator (Model IRK 151, MBB-AT) with a 6 mm sapphire cap was used. Theoretical considerations and preliminary work on cutaneous vascular lesions have been reported (Colver *et al.*, 1986b). Local anaesthesia was induced by infiltrating the area with 1% lignocaine hydrochloride. The sapphire cap was pressed over the lake firmly so that complete emptying of blood occurred, before a single pulse of 1.125 seconds was administered (Fig. 1).

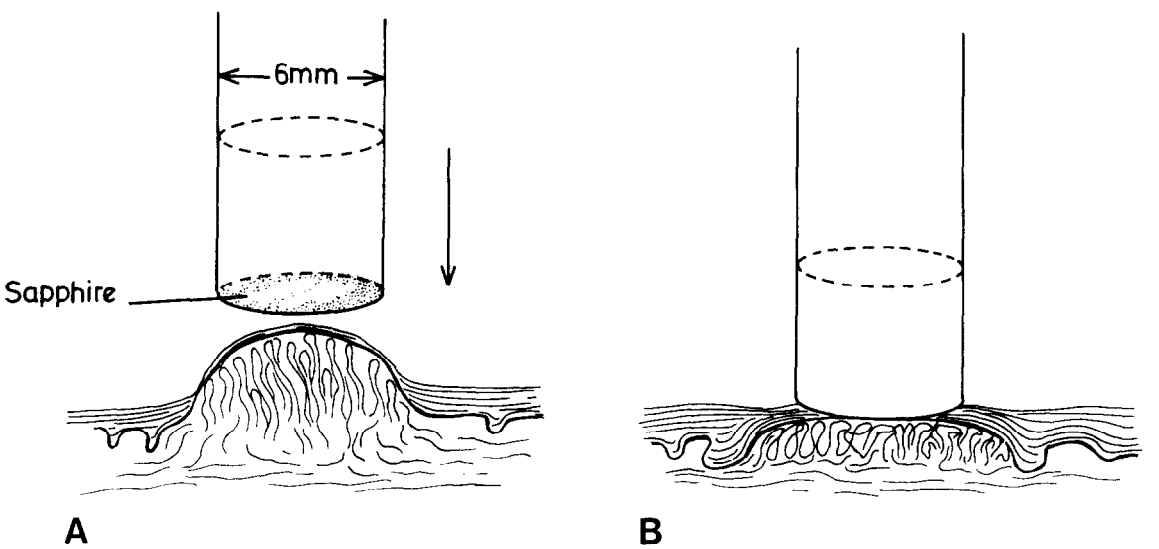

Fig. 1

Figure 1—Venous lake (A) before compression and (B) following compression but prior to coagulation.

Fig. 2

Figure 2—(A, B, C) Photographs of 3 patients taken before (left) and 3 months after coagulation.

Results

A white 6 mm circle in the treated area appeared immediately and failure of the lesion to refill with blood indicated that the vascular spaces had been coagulated adequately. Over the course of a few days, the white area developed into an eschar and separated at around the tenth day. Healing was complete by 14 to 21 days.

We have coagulated 10 venous lakes in nine people and each treatment has been successful, with an excellent cosmetic result (Fig. 2A, B & C). Two subjects have a small depression at the site of treatment but the treated area is flat in all other patients. No recurrences have been seen (mean follow-up time—4 months).

Discussion

The cause of venous lakes is not known. They have been reported as occurring in a family (Reed, 1976). They are not associated with any other disorder. Treatment may be required if bleeding after trauma is troublesome or for cosmetic purposes. A good treatment should not only be effective but quick, simple, cheap and safe with low morbidity. These requirements are met by infrared coagulation. This technique has also been used to treat tattoos (Colver *et al.*, 1985) and port wine stains (Schmoll, 1981; Krumrey, 1984; Colver *et al.*, 1986b). When venous lakes are treated by cautery, cryotherapy etc., it is necessary to destroy them with blood in the vascular channels and the thickness of the lake may be several millimetres. The method described in this paper is contact coagulation and the lesion is compressed and emptied of blood prior to treatment; as a result less energy is required to coagulate the channels when they are compressed in this way. The same approach has been used by the authors to coagulate blue rubber bleb naevi. It is also hoped that rapidly growing strawberry angiomas in children will respond in the same manner.

A pulse of 1.125 seconds was chosen for this study and was effective in each case. We shall now treat further patients with a 1.0 second pulse. It should lead to quicker healing and possibly prevent the small post-treatment depression which we saw in two patients.

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