



Ideas and Innovations

A simple atraumatic method of pedicle delivery during free tissue transfer

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SUMMARY. A technique is described which safely transfers a free flap vascular pedicle beneath a skin bridge to its intended anastomotic site. The method has been used routinely in this unit without complication during the past 5 years.

Transfer of a free flap pedicle beneath a skin bridge to its intended anastomotic site is an important step in some free tissue transfers. Excessive traction or crushing of the pedicle with instrumentation may cause intimal damage and subsequent thrombosis. Twisting the pedicle as it is tunneled is also to be avoided, as thrombosis may ensue. Blind tunnelling of the pedicle may avulse haemostatic Ligaclips placed on side branches of the pedicle. The resulting haemorrhage, often apparent only when the anastomosis has been completed and clamps released, is difficult to deal with safely.

The technique prevents these problems.

Operative technique

This procedure may be used in any free tissue transfer where it is necessary to pass the pedicle beneath a skin bridge. Here it is demonstrated in a toe to thumb transfer. A length of clear plastic tubing is passed beneath the skin bridge from the intended anastomotic site to the free flap pedicle (Fig.). The pedicle, having been thoroughly wet with normal saline, is placed inside the plastic tubing. A Hydroflow suction irrigation system (Portex Ltd, Hythe, Kent, England) is inserted into the other end of the plastic tube. The Hydroflow system is connected to a standard suction unit at a low suction pressure. 10 KpA is the usual starting pressure and this can be increased as necessary, to splint the pedicle within the lumen of the plastic tube as the tube is slowly withdrawn, delivering the pedicle to the anastomotic site.

It is important to start at a low suction pressure to avoid unnecessary trauma to the pedicle.

Discussion

We believe that using this technique:

- (i) The pedicle is not handled or directly manipulated as it passes beneath the skin bridge, thereby minimising the risk of intimal damage.

- (ii) Haemostatic clips are not avulsed.
- (iii) Twisting of the pedicle is avoided, as the longitudinal suction force within the tube corrects any tendency for the pedicle to rotate.
- (iv) The same principle may be used in the transfer of cross facial nerve grafts.

We recommend this method of pedicle delivery during free tissue transfer.

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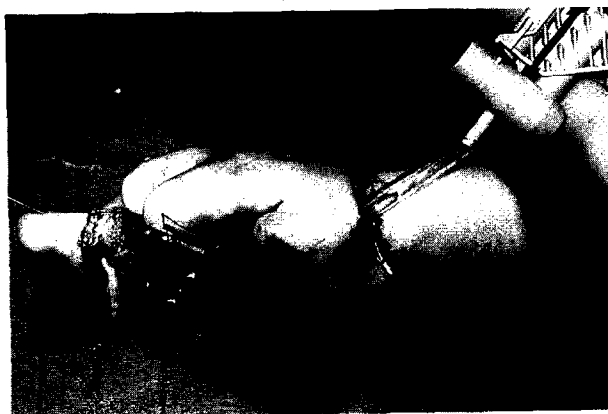


Fig.

Figure—The pedicle of a toe transfer being drawn through the tube by suction.