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THE REPRODUCIBLE TIE-OVER DRESSING

Sir:

Tie-over dressing is a widely used technique to secure skin grafts and to avoid complications such as fluid accumulation and hematoma; alternative methods have been used in the construction of these dressings.[1–5]

The main purpose of the tie-over dressing is to ensure circumferential contact between the graft and the host bed. Ideally, all skin grafts should take; however, complications such as hematoma, movement, and infection do occur notwithstanding pressure on the skin graft.

The dressing is usually left in place for approximately 5 days, but sometimes, checking the status of the graft at 2 to 3 days is important to resolve complications before complete necrosis can occur. By doing this, we maintain the "stent" effect of the tie-over dressing, which is important to provide adherence of the graft and to improve survival rates. In this communication, we present our method of reproducible tie-over.[3]

After adjustment of the graft to the skin defect and irrigation with saline, skin staples or nylon sutures are used to tack the graft circumferentially. Traditionally, we apply silk sutures along the borders of the graft, but instead of one end, we leave both ends of the single stitch long. Subsequently, the classic tie-over dressing with an impregnated, nonadherent gauze filled with a bolus of fluffy gauze is fashioned using only one end of the thread; the other ends are left free under the dressing over the tie-over.

When skin graft take is uncertain for clinical (e.g., due to infection or early mobilization) or pharmacological (use of anticoagulants or antiaggregants) reasons, it is useful to check the status of the graft on the first or second postoperative day by removing the tie-over dressing; at the end of this first medication check, we can perfectly reproduce the tie-over dressing using the second ends of our stitches, ensuring contact between the graft and the bed, with no discomfort to the patient (Fig. 1).

By performing this simple technique, we can check the status of the graft without losing the main property of the tie-over dressing, which is to create stable pressure and fixation. We also save our graft by using the first medication check to solve causes of graft failure.

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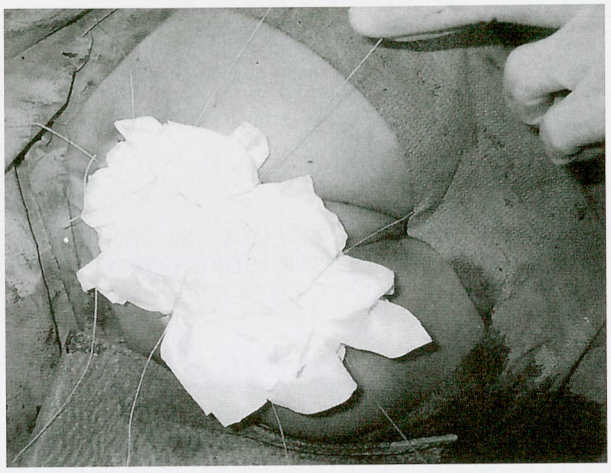

FIG. 1. The reproducible tie-over dressing. Both ends of the stitches are left long; the second ends are left free and the first ends are tied over.

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IS THE HYPOGLOSSAL NERVE A RELIABLE DONOR NERVE FOR TRANSFER IN BRACHIAL PLEXUS INJURIES?

Sir:

Narakas[1] proposed the use of the hypoglossal nerve in the reconstruction of brachial plexus injuries. Only two recent publications, by Malessy et al.[2] and Ferraresi et al.,[3] have described the results of these neurotizations in series of 14 cases and seven cases, respectively. Both studies showed extremely disappointing

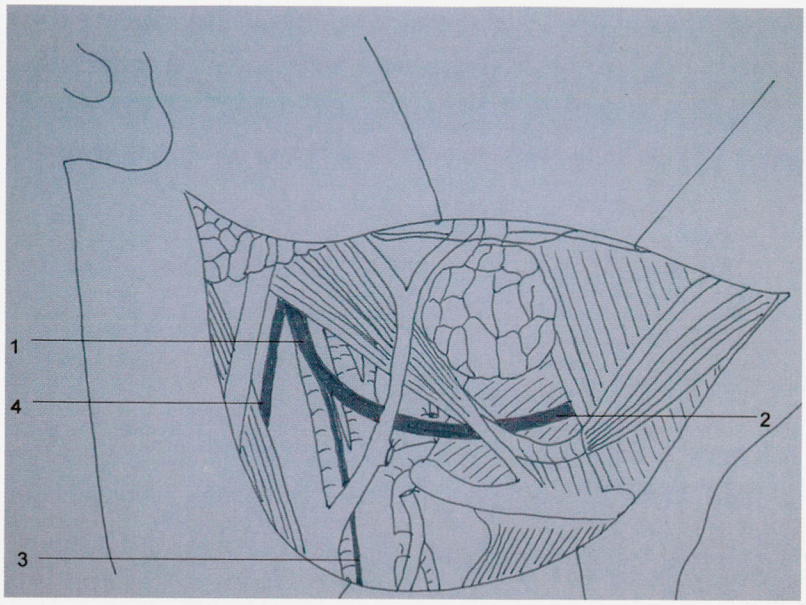

FIG. 1. Sites of samples for morphometric study: *1*, proximal part of the hypoglossal nerve; *2*, distal part of the hypoglossal nerve; *3*, ansa cervicalis; *4*, spinal accessory nerve.

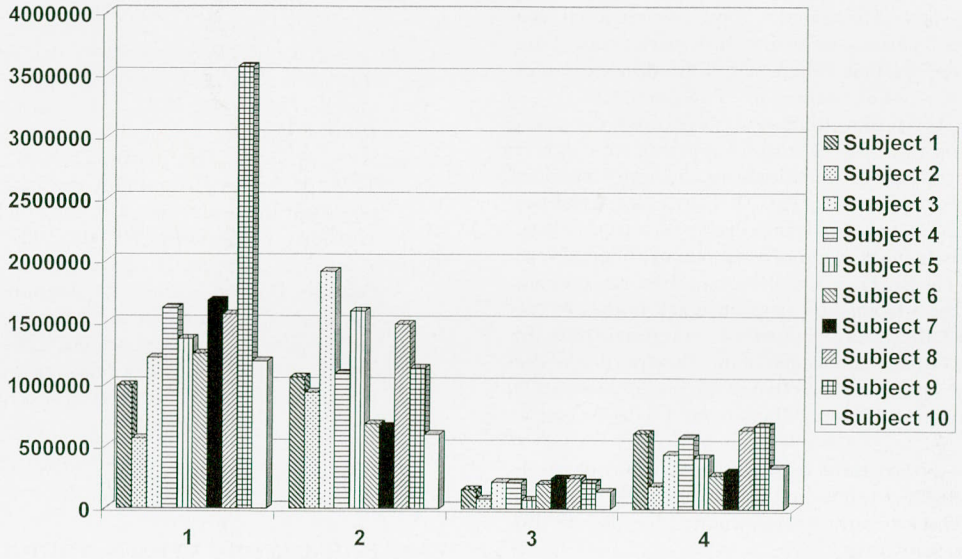

FIG. 2. Fascicular cross-sectional area (mm^2) for each sample in each of the 10 cadavers (subjects 1 through 10): *1*, proximal part of the hypoglossal nerve; *2*, distal part of the hypoglossal nerve; *3*, ansa cervicalis; *4*, spinal accessory nerve.

results—two useful results out of 14 cases for Malessy et al. and none for Ferraresi et al. It must be noted that Ferraresi et al. utilized only half the hypoglossal nerve for transfer. In addition, Malessy et al. found six definite functional sequelae with three cases of severe hemiatrophy of the tongue. One of these occurred in a patient in whom reinnervation of the tongue had been attempted using the ansa cervicalis. We examined the course of the hypoglossal nerve in the neck in 10 fresh cadavers in an attempt to explain these poor results and, if possible, propose a more reliable method of using this nerve.

The cross-sectional area of the hypoglossal nerve was measured at three sites (Fig. 1): in the proximal part, in the distal part, and at the level of the ansa cervicalis. Each of these measurements was compared with that of the corresponding spinal accessory nerve before its entry into the sternocleidomastoid muscle (Fig. 1). The results of this morphometric study showed that the surface of the hypoglossal nerve at the usual site of transfer (2) varies considerably, ranging from 1 to 3, which affects the reliability of this neurotization. It was also shown that at the usual site of nerve section for transfer, the hypoglossal nerve was found to be 1.6 to 5 times thicker than the spinal accessory nerve proximal to its entry into the sternocleidomastoid muscle (Fig. 2).

A complementary neurotization of the distal stump of the hypoglossal nerve using a portion of the ansa cervicalis has been used in an attempt to minimize the motor sequelae of the loss

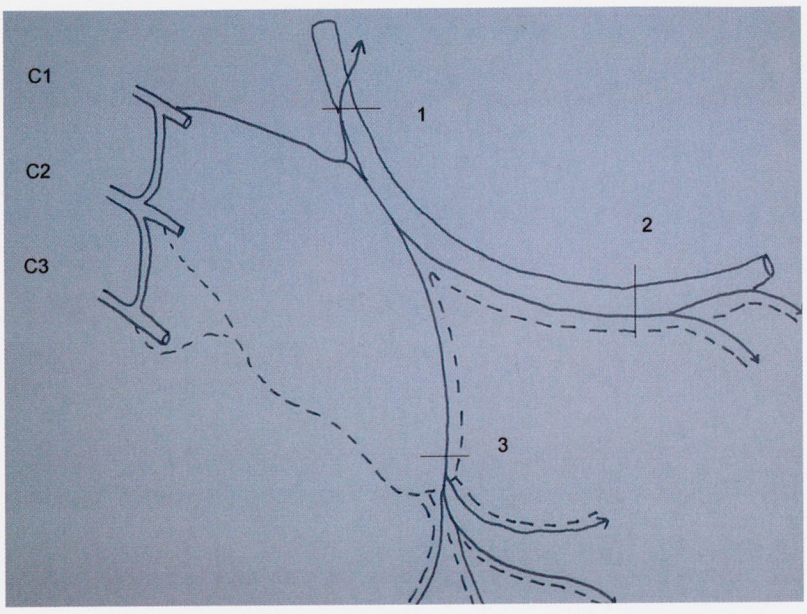

FIG. 3. Organization of the fibers of the C2 and C3 spinal nerves (dotted lines) contributing to the distal portion of the hypoglossal nerve, according to Winckler.

of the hypoglossal nerve. However, the total cross-sectional area of the multiple small nerves comprising the superior root of the ansa cervicalis is much smaller than that of the distal stump of the hypoglossal nerve (4.51 percent to 37.18 percent).

Winckler[4] has shown that the motor fibers of the deep cervical plexus, arising from the C2 and C3 spinal nerves, ascend along the ansa cervicalis to participate in the innervation of some of the perihyoid muscles (Fig. 3). Hence, a part of the surface of the divided ansa cervicalis corresponds to the distal cut ends of the fibers of the deep cervical plexus (fibers shown by dotted lines in Fig. 3). Thus, the division of the ansa cervicalis separates these fibers from their respective cell bodies in the spinal cord; hence, they cannot contribute to reinnervation. In four cadavers, the cross-sectional area of the distal portion of the hypoglossal nerve was greater than that of the proximal part due to the presence of the additional fibers from the deep cervical plexus (Fig. 2).

In view of the poor results of hypoglossal neurotizations and the potential severity of the motor sequelae of the loss of hypoglossal nerve, we cannot recommend the use of this transfer in its present form.

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ANKLE-ARM INDEX VERSUS ANGIOGRAPHY FOR PREASSESSMENT OF THE FIBULA FREE FLAP

Sir:

The need for preoperative vascular assessment of the lower extremity when considering free fibula transfer is still a controversial issue. In an invited comment, Neil Ford Jones concluded that congenital anomalies limiting the use of the fibula osseous or osteocutaneous free flap are exceedingly rare both in anatomic and in radiologic studies and in more than 650 patients in whom a free fibula transfer was performed. He stated that routine preoperative angiography cannot be justified in every patient requiring a free fibula flap and that it is necessary only if the patient has an absent or diminished pencil Doppler evaluation, if the patient has significant symptoms or signs of peripheral vascular disease, or if the patient has had previous trauma or previous vascular surgery to the lower leg.[1] Other authors, however, stress the need for preoperative leg angiography in fibula free flaps or