Letters to Editor

The ulnar digital artery perforator flaps

Sir,

We read with interest the letter by Kulkarni et al. on the ulnar digital artery perforator flap. The authors have shared an important issue of flap congestion in their experience of two cases of avulsion injury. We agree with the authors that injury in both cases was avulsion in nature, and likelihood of injury to the perforator could not be ruled out. Although Doppler revealed signals of the perforator, since there is the ulnar digital artery running parallel underneath, Doppler done from the palmar aspect can be unreliable at times giving some false positive signals.

For the sake of completeness and to shed some more light on the issue at hand, this letter needs some more comments.

Hao et al. have published their work on the ulnar palmar perforator flap in which they describe their experience of 30 cadavers and 16 clinical cases. Of the 16 cases, 12 were due to crush injury, 2 were due to explosion and 2 were due to burns. They had successful outcomes in all cases.

The flaps in all the cases were perfused by the perforators of the ulnar palmar digital artery of the little finger and were harvested from the dorsoulnar aspect of the hand. Hao et al. feel that the skin here is more thin and pliable.

Besides, as there are no superficially located main arteries on the dorsoulnar aspect of the hand, it makes the Doppler signal more reliable.

After Panse and Sahasrabudhe had reported anatomical and clinical series for reconstruction of defects of the little finger, Toia et al. further investigated the anatomy. They have noted that constant perforators from the ulnar palmar digital artery which are directed to volar and dorsal skin arise within a similar distance of the metacarpophalangeal joint.

This makes possible harvesting flaps from the hypothenar region (as illustrated by Panse et al.) as well as the dorsoulnar aspect of hand (as demonstrated by Hao et al.) based on the ulnar palmar digital artery perforators.

Toia et al. have also pointed out possible advantages when area of flap harvest is from the palmar aspect. Bigger flaps can be harvested from the palmar aspect as compared to the dorsoulnar aspect, with primary closure of the donor site. It avoids skin grafts and scars on the dorsal and ulnar (social) surface of the hand. When volar aspect of the little finger is to be resurfaced, flap harvest from the palmar aspect will replace palmar skin with palmar skin respecting the principle of replacing like with like. Similarly, flaps from the dorsoulnar aspect can be a better option for resurfacing the dorsal aspect of the little finger.

Recent clinical and anatomical studies on perforator flaps based on perforators of the ulnar palmar digital artery have opened up newer and convenient options for reconstruction in the arc of rotation of these flaps. The indications for the use of these flaps are precise, and due care must be taken in proper patient selection to optimize the results of the ulnar digital artery perforator flaps.

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Sir,

Intermaxillary fixation (IMF) is the oldest and most widely used technique of jaw immobilisation for management of facial trauma. Immobilisation of the fractured bone segments aims to reduce the motion along the continuity disruption, which is important to promote timely healing or union.[1] Although technology has advanced to a position where every maxillofacial fracture can be treated by open reduction and internal fixation (ORIF) with ease,[2] traditional conservative methods still hold their place in management of facial fractures in some situations like unavailability of required armamentarium for ORIF or inability on part of the patient to bear the expenses. The management of condylar fractures has been a topic of controversy since ages, with advocates as well as critics of both the conservative and invasive techniques.[3] The conservative option ranges from no treatment, to variable period of IMF, using different types of wiring techniques such as: wired arch bar, eyelets, cap splint, interdental wiring, stout wiring, bracket bar, Leonard button, otten mini hooks and ulster hook. The most commonly used IMF technique for management of facial trauma is the wired arch bar. Although it provides sufficient immobilisation, it has a number of disadvantages: it is a cumbersome procedure, there is an increased risk of needle stick injury (because of increased number of wires used) and maintaining gingival health is difficult.[4] Keeping these facts in mind, we attempted to design a simple wiring technique that can provide sufficient immobilisation as well as avoid the above-mentioned drawbacks.

Method of interdental wire hook fabrication:
A 26-gauge, 10 cm long wire was used in the current technique. We applied a mark at 3 mm distance from one end of the wire. This end was turned to form a loop with the remaining wire and then another turn was given in the same direction holding the previously formed loop. The whole wire was passed through the first loop to form a hook. This hook was kept at right angle to the wire during the IMF. Wire hooks were pre-fabricated before starting the procedure and eight of them were applied interdentally [Figure 1a and b].

Method of IMF technique:
After aseptic preparation, 2% lignocaine jelly was applied for topical anaesthesia if required. Wire hooks were placed interdentally on one side of maxilla and mandible as follow:
1. Between first and second molars in maxilla (from buccal to palatal and wire end from palatal to buccal projected between the second premolar and first molar).
2. Between premolar and first molar in mandible (from buccal to lingual and wire end from lingual to buccal projected between first and second molar).
3. Between premolar and canine (wire end projected between premolars) and between premolars (wire end projected between canine and premolar) in maxilla and mandible, respectively.
4. Reverse order was used on opposite side in maxilla and mandible.
5. After placing all wire hooks, tightening of upper wire ends was done with respective lower wire ends [Figures 2 and 3].