
**Summary**

**Background** Compound defects of the Achilles region pose a reconstructive challenge. Poor vascularity of the Achilles region predisposes to complications. Repair of the tendon with simultaneous soft-tissue cover gives the patient the best chance to recover. **Materials and methods** Gastrocnemius musculotendinous V–Y slide for Achilles tendon defect with non-axial turnover fascial flaps based on the proximal end of the defect with a split-skin graft on the fascial flap was used in two patients. The vascular bases of such flaps and the technical details has been discussed. **Results** The functional and aesthetic results were highly satisfactory with minimal donor-site morbidity. The flap was thin enough to fit the contour of the Achilles region. The fascial flap with skin graft was durable and withstood footwear well. The flap also allowed tendon gliding beneath it, with near-complete movements at the ankle joint. **Conclusion** Large flaps can sufficiently be raised with a wide base to cover small- to medium-sized defects. It is a good, rapid and cost-effective solution for a difficult clinical problem.


Flexion deformities of hand and palm can occur due to variety of reasons. Deep burns involving volar surface of the digits and palm is the commonest cause. They all pose a challenge for the plastic surgeon. The other reasons are congenital hand deformities like camptodactyly, Dupuytren's contracture, post traumatic contracture, post infective contracture etc. Good functional result is achieved not only by adequate corrective surgery but also by suitable splintage and physiotherapy [1]. The aim of the splint is to provide prolonged stretch to healing tissues and prevent flexion contractures [2].

Moderately sized defects of various etiologies are encountered frequently in the lower limb. Several reconstructive modalities are available. Majority of them do not meet all the desirable criterion of recipient and donor site. In a search for an optimal procedure, the fascial flap emerged. We found the fascial flap to be suitable and advantageous for many defects. This paper describes the anatomical basis, planning, technique, and application of the fascial flap. To establish the technique, we divided the study into two parts (a) cadaveric dissection and (b) clinical application. Dissection in 12 fresh cadaver limbs confirmed the location of the perforators of the posterior tibial and peroneal vessels. It also visualised the rich vascular network associated on either side of the deep fascia. The findings also suggested the safe dimension of a retrograde flap which is the key to success. Convinced and encouraged with the above findings, fascial flaps were successfully used for moderately sized defects at various non-weight-bearing areas of lower limb in 20 patients. Out of these, eight were random flaps and 12 were pre-Dopplered perforator flaps. Out of 20, 16 flaps healed uneventfully. In four cases one had complete necrosis while another had partial necrosis. Two cases had complete graft loss although the flap survived. These cases were followed up from 6 months to 2.5 years with an average of 1.5 years. Fascial flaps provide gratifying results in the majority of moderately sized lower-limb defects in non-weight-bearing areas. It meets most of the requirements of reconstruction in a single stage. Therefore, wherever feasible this simple method is justified.


Moderate size defects of the shin of tibia are frequently encountered following trauma and infection. They may be associated with or without a fracture. Such defects require resurfacing by a flap. Many different types of flaps have been described but most of them proved to be more bulky than desired. Although these procedures cover the defects successfully the results they produce are not aesthetically appropriate. The flap looks bulkier because the native subcutaneous tissue is thin over the shin and distal leg. Hence a search for a vascularized tissue of minimal bulk for suitable resurfacing was initiated. A turnover fascial flap fulfilled the requirement. Such a flap can be made thinner by splitting its distal part into two layers while
maintaining a common vascular fascial pedicle with both the layers of the fascia. This allowed a larger surface area to be covered. Such refinement is based on the following parameters (a) fresh cadaveric dissection, (b) demonstration of live microcirculation individually in the superficial and deep layers of the deep fascia and (c) intraoperative fluorescein study of the split fascial flap. The technique has been used in 5 cases over the upper and middle third of the shin of tibia. The split fascial flap was turned over and inset in the defect and covered with a split skin graft. The donor site was primarily closed. The functional and aesthetic results were highly satisfactory. The follow up of 18 months proved the durability and usefulness of the flap.


BACKGROUND: The perforator flaps evolved on the knowledge of the vascular tree from the main vascular trunk up to the subdermal plexus. Therefore, we thought that it's necessary to map the whole vascular arcade by CT angiography. The aim of this study is to evaluate the perforators and the whole vascular tree of the lower limb by peripheral CT angiography with 3D reconstruction and intraoperative evaluation. This study helps in designing flaps of different constituents based on the selected perforators. MATERIALS AND METHODS: Twenty patients having lower limb defects were selected. CT angiography was done using a non-ionic iodinated contrast media injected through the antecubital vein. The lower limbs were imaged using volume rendering CT scan machine. Three dimensional reconstructions were made. The whole arterial tree, along with the perforators, were mapped. Findings of the audio-Doppler were correlated with the CT angiographic observations. Further these evaluations were confirmed by intraoperative findings. RESULTS: The three dimensional CT angiographic reconstruction with bone and soft tissue provided advanced knowledge of this vascular network. It delineated the main vessel, the perforators, their caliber, distance from fixed bony landmarks and course up to the subdermal plexus. These findings were confirmed during dissection of the proposed flap. The perforators were mainly musculocutaneous in the proximal leg and septocutaneous distally. CONCLUSIONS: The vascular details visualized by this technique made advancement over the existing methods namely color Doppler, audio Doppler, two dimensional angiography etc. It improved the understanding of perforator flaps and their successful clinical application.

Background: Dentigerous cysts associated with supernumerary teeth are rare with most of them developing around a mesiodens in the anterior maxilla. Dentigerous cysts from multiple supernumerary teeth, especially with inverted tooth, are rare in other regions of the maxilla. Case report: We report a unique case of a dentigerous cyst in a child associated with multiple inverted supernumerary teeth and relevant review of literature. Conclusion: Dentigerous cyst arising from multiple supernumerary teeth and not anterior maxillary mesiodens is quite uncommon. In a child, such findings associated with inverted tooth are still rare. Such cysts should be managed by excision as soon as possible.


