Conflict of interest

None.

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Lateral arm reconstruction with posterior radial collateral artery perforator based flap

Dear Sir,

We read with great interest the article entitled "Reconstruction of elbow region defects using radial collateral artery perforator (RCAP)-based propeller flaps".[1] In their work, Murakami and colleagues describe a valid indication for the use of RCAP based flaps, showing the clinical reliability of the propeller design to obtain soft tissue coverage for defects around the elbow. The use of local perforator flaps in the field of arm reconstruction has not gained popularity yet because of the anatomic variability of this region and the lack of clinical studies investigating their feasibility.

For these reasons, we congratulate the authors for their work and we would like to complement their experience showing the clinical reliability of posterior radial collateral artery (PRCA) perforator based flaps to resurface upper lateral arm defects.

A 58 year-old woman was referred to our Department for the treatment of malignant melanoma involving the upper middle third of the left arm. A line centred on the lateral intermuscular septum, connecting the insertion of the deltoideus muscle to the lateral epicondyle, was drawn. On this anatomical reference, the angiosome of the classic lateral arm flap was explored by means of hand-held doppler for the presence of cutaneous perforators. The presumed defect was judged too wide to obtain primary closure of the donor site in case of propeller flap movement; consequently a V-Y advancement PRCA perforator based flap was planned. The surgical excision according to guidelines margins resulted in a 9 × 8 cm defect (Figure 1). A 12 × 7 cm V-Y PRCA perforator based flap was harvested. Dissection proceeded in a sub-fascial plane until approaching the lateral intermuscular septum, where two main septo-cutaneous perforators were isolated and followed deeply to the PRCA without interrupting the continuity of the source artery (Figure 1). The flap was then cranially advanced in a V-Y fashion to cover the defect without tension and donor site was closed primarily. The whole procedure was performed in 110 min. At 6 months follow-up, no complication was experienced, resulting in excellent functional and aesthetic outcome (Figure 2). Adequate soft-tissue coverage is of

Figure 1 A 12 × 7 cm PRCA perforator based flap has been planned to resurface a 9 × 8 cm defect in the upper lateral aspect of the arm.

Figure 2 6 months post-operative view.

paramount importance in upper extremity reconstruction because of the functional involvements of this area. Traditionally, muscle flaps have been considered suitable.[2,3] However, large muscle flaps, such as the pedicled latissimus dorsi flap, are associated with high donor site morbidity and may result too bulky for the recipient site with a poor aesthetic outcome. On the other hand, many authors have underlined the versatility of perforator flaps, such as thoracodorsal artery perforator (TAP) flap,[4] in the field of upper extremity reconstruction. However, the pedicled TAP flap requires an extensive dissection and needs to be tunnelled, thus exposing the pedicle to further compression, while the free TAP flap requires a comprehensive micro-surgical expertise. In this scenario, we do not only agree with the statement of Murakami and colleagues,[1] who defined RCAP based flap as one of the most reliable options for elbow reconstruction, but we also extend the indication for its use to defects located in the upper lateral arm. The flap can be rotated as a propeller flap[1] or advanced in a V-Y fashion, as shown in our case. The quite constant vascular anatomy (there are 3 constant perforating arteries to base the flap on),[5] associated with primary closure of the donor site, make the flap a versatile option for both proximal and distal defects in the lateral aspect of the arm. We recommend its use because of ease of dissection, similar skin texture and thickness between donor and recipient site and minimal donor site morbidity with preservation of the main neurovascular structures.

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Risk of infection with delayed wound coverage by using negative-pressure wound therapy in Gustilo Grade IIIB/IIIC open tibial fracture: An evidence-based review

Dear Sir,

Patients with high-grade open tibial fractures are often associated with severe bone and soft-tissue injury.