Re: The reverse dorsal metacarpal artery flap in finger reconstruction: A reliable choice

Sir,

We congratulate Balan et al., for their work describing the reverse dorsal metacarpal artery flap for cover of finger defects. They have exemplified its utility in a wide spectrum of dorsal finger defects, providing a simple single stage cover with like tissue without any donor site morbidity.[1]

However, the authors describe this flap being based on retrograde flow through the dorsal metacarpal artery (DMA) through communicating perforators, while in the surgical procedure described, they have not mentioned that they have raised the flap with the DMA. That implies that the flap is based on a perforator. With this in mind, we beg to differ in understanding the dynamics of blood flow to the flap- antegrade vis-a-vis retrograde. To clarify the same, we would like to highlight a few anatomical features of dorsal hand circulation [Figure 1] and exemplify with description of two flaps based on DMA- reverse dorsal metacarpal

Figure 1: Illustration of vascular anatomy of a ray forming the vascular basis of volar and dorsal flaps

Figure 2: Cadaveric dissection showing the dorsal metacarpal artery based flaps (A) reverse dorsal metacarpal artery flap shows the dorsal metacarpal artery in the flap marked as ‘a’ and the branch communicating with the palmar metacarpal artery at the level of head of metacarpal marked as ‘b’. (B) Dorsal metacarpal artery perforator (DMAP) flap shows DMA in situ as ‘c’ with its dominant cutaneous perforator at the level of web space marked as ‘d’. There are small communicating branches passing volarly from this cutaneous perforator
artery (RDMA) flap and dorsal metacarpal artery perforator (DMAP) flap [Figure 2].

Distally, the DMA ramifies at the level of the metacarpal heads and its branches can be identified distal to the metacarpophalangeal joint travelling to the dorsal proximal phalangeal skin of the fingers where they anastomose with the dorsal branches of the palmar digital arteries. Quaba and Davison, in 18 cadaveric dissections, described that these branches travelled proximally (recurred) forming longitudinally oriented plexuses. In each of these vascular leashes, a small (0.3–0.5 mm) perforator arising directly from the DMA, or when the latter is absent, a perforator from the volar system was demonstrated. Such perforators connecting the palmar and dorsal metacarpal arteries are seen either proximal to metacarpal head or at the level of the base of proximal phalanx-near the web.

In RDMA flap, superficial veins are interrupted and the proximal end of the vessels (veins and DMA) are ligated at the proximal margin of the flap. Blood flows into and out of the flap through a number of branches and tributaries, contained in a mesentery or a fascial septum. To reach the general circulation, the blood must reverse its flow through the veins. The arterial flow is retrograde in the DMA through the communicating perforators [Figure 3].

The DMAP flap is based on a dominant communicating perforator or a direct cutaneous vessel which enters the flap, anatomically speaking, at its distal end. Although out-flow through superficial veins may be interrupted, venous return through the deep system remains undisturbed [Figure 4]. This is thus based on antegrade flow through the DMA and/or the palmar metacarpal artery through the perforator, and it is a perforator-based flap. Flap based on the proximal perforator at the level of metacarpal head, is called 'DMAP flap' while flap based on the distal perforator at the level of web space, is called 'extended DMAP flap'.

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Conflicts of interest
There are no conflicts of interest.
Letters to Editor

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REFERENCES


Re: A novel method to insert drain atraumatically after liposuction in gynaecomastia

Sir,

We read with great interest the article titled, 'A novel method to insert drain atraumatically after liposuction in gynaecomastia' by Sunil Gaba, and we congratulate the authors.

We agree with the authors that, also liposuction, even when combined with glandular resection, has an important role in the surgical treatment of gynaecomastia, for flattening the thorax, eliminating fat residuals and creating a controlled shrinking of the cutaneous flat to recontour the male chest area. Seromas is one of the most common complications when liposuction is included in gynaecomastia surgical correction.

In our practice, with more than 600 patients undergoing gynaecomastia surgical correction and long‑term evaluation for complications and recurrences, mainly based on direct excision of the gland, the inferior emi‑periareolar access, allowing a direct view of the surgical field, ensures a valid control of haemostasis, reducing the incidence of haematomas significantly.

Furthermore, we retain that quilting stitches, firmly connecting the adipo‑cutaneous thoracic flap to the fascial plane, with a compressive medical dressing, effectively contributes in reducing seromas and haematomas. Moreover, the compression is maintained, for at least 1 month postoperatively, using a compressive jersey.

The use of drains should be suggested only in patients with the removal of large amount of breast gland or with a personal history of coagulation disorder, although the final choice for their insertions should be made directly in the operation room and last for not longer than 48 h. In fact, we do not retain the use of drains mandatorily for this type of surgery, even because the use of suction drains themselves could be responsible for complications such as surgical‑site infections and pathological scarring which might be the cause of patients' complaints, especially in aesthetic surgery.

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