Breast Reconstruction Using the Geometrically Modified Profunda Artery Perforator Flap from the Posteromedial Thigh Region
Combining the Benefits of Its Predecessors

Dear Editor,

We read with great interest the article by Hupkens et al.[1] We appreciate the fact that they have attempted to fill the void of breast reconstruction options in candidates unsuitable for deep inferior epigastric perforator flap and requiring moderate to large volume replacement. They have thoughtfully approached issues like limited flap volume and caudal scar migration seen with the original profunda artery perforator (PAP) flap. Their design appears to provide some additional flap volume without sacrificing the donor site aesthetics. The authors have used indocyanine green to decide on the final flap dimensions, and we believe that this is the right way forward in breast reconstruction. The authors have described the ideal candidates as those with a sparsity of abdominal tissue combined with an abundance of gluteal tissue. However, it is possible that a significant number of patients may not fit this body contour, thus, limiting the application of this design to a small subset of patients.

We have described an alternative option using a combination of transverse upper gracilis (TUG) and PAP flaps.[2] It can be applied uniformly to all patients with unavailability of the abdominal donor site, without putting any preconditions on patient's physical characteristics. The inclusion of the PAP pedicle, during harvest of TUG flap, has also been described by Bodin et al.[3] The essence of our design is the addition of fasciocutaneous tissues of the TUG and PAP flap territory while safe guarding their vascularity by synergistic effect of inclusion of both the pedicles. This precludes the need to dissect saphenous vein branches and cuts down the operating time. The need for fat grafting, as reported by the author in 8 cases, can also be rendered superfluous if our technique is considered. One may also be able to avoid contralateral reductive procedures. This is because our technique allows flexibility in harvesting optimal amount of fasciocutaneous tissue from the territory of the TUG or the PAP flap after carefully identifying and isolating the pedicles. Experienced microsurgeons can securely harvest this flap to the combined limits of the individual flap territory. The only disadvantages are the slight increase in operative time because of additional anastomosis and the occasional necessity of using vein grafts for arterial anastomosis. Scar migration may be seen in some cases where large skin paddle is harvested. However, one must not be too concerned with donor site, especially when there are significant benefits accrued at the recipient site. If used along with indocyanine green like the authors have stated,[1] our technique could be a reliable alternative for patients who are unsuitable for deep inferior epigastric perforator flap and unwilling for contralateral reduction mammoplasty.

We would like to congratulate the authors on their well thought out modifications. We hope that they consider some of our suggestions of securely harvesting larger flap tissue so as to reduce need for secondary breast surgery.

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The Combined Transverse Upper Gracilis and Profunda Artery Perforator Flap for Breast Reconstruction—Letter to the Editor

Dear Editor,

We feel honored to be able to respond to the letter from Ciudad and colleagues, the authors of the article entitled: The combined transverse upper gracilis and profunda artery perforator (TUGPAP) flap for breast reconstruction.[1]

Like us, the authors are elaborating optimal alternatives for breast reconstruction when the deep inferior epigastric artery perforator flap is unavailable or undesirable. The profunda artery perforator (PAP) flap offers at least 2 major advantages compared with its predecessors.[2] Firstly, the concealed donor site scar and secondly, the possibility to harvest the flap in the frog leg position makes this flap an attractive alternative. Although our first experience was encouraging, eventual caudal scar migration at the donor site was of major concern to most of our patients. We therefore evaluated the effect of a modified flap design and found significant improvements with respect to the resultant scar position.

In their article, Ciudad et al. described the successful inclusion of the PAP pedicle during the harvest of a TUG flap. Like them, we have not seen patients with postoperative flap necrosis in our series. Therefore, the addition of the TUG pedicle seems unnecessary when the horizontal ellipse design is used. In this respect, pedicle selection is of prime importance.

Flap dimensions and flap weight have an impact on donor site aesthetics. To harvest larger PAP flaps and yet to prevent caudal scar migration, we think that it is inevitable to include a vertical component to the horizontal ellipse design. The anteromedial part of the proximal third of the thigh does not add much volume to the flap, whereas the middle third of the medial thigh offers abundant soft tissue. We recently extended the horizontal ellipse of the geometrically modified PAP flap and included a vertical component. This vertical component consisted of a V-shaped caudal extension in the medial thigh region. Depending on either a central or anterior position of the V-shaped extension, the resultant scar was either T-shaped or L-shaped. It is however noteworthy that the vertical component of the scar was the most visible part, and patients must be informed about this preoperatively.

The length of the vertical extension influences the necessity and also the feasibility

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