

Surgical Delay of Thoracodorsal Artery Perforator Flaps for Bilateral Autologous Breast Reconstruction

Jean-Claude D. Schwartz, MD, PhD

Dear Sir,

We read with interest the case report by Hoffman et al¹ regarding surgical delay of bilateral thoracodorsal artery perforator (TDAP) flaps for breast reconstruction. We agree that obese patients who undergo this surgery are at significant risk of complications secondary to arterial and/or venous insufficiency. This often leads to partial necrosis of the flap, which does not uncommonly require reoperation for debridement, resulting in additional morbidity and poor aesthetic outcomes.

In these patients, we prefer a muscle-sparing latissimus dorsi (MSLD) flap not only for ease and rapidity of dissection, but also to include multiple perforators. Although dissecting larger TDAP flaps that include multiple perforators is possible and, in fact, previously shown to be necessary to prevent complications,² this is a technically complex surgery requiring extensive operative time and dissection with multiple myotomies. We have published a modification of the MSLD flap³ that incorporates all the dominant perforators along the anterior edge of the latissimus dorsi (LD) by adding a vertical incision in this location, leaving patients an inconspicuous scar in the posterior axillary line. Importantly, this also gives us the freedom to place our transverse skin island, where we please to maximize both arc of rotation and flap volume based on the patient's individual anatomy. This approach does not require dissection of the individual perforators. In addition, by taking a wider piece of muscle than previously described by Hamdi et al for MSLD (type II) flaps,⁴ we incorporate additional random perforators into the MSLD flap. We also believe that routine loss of the transverse branch of the thoracodorsal artery (TDA; often performed in many TDAP flaps) is a critical mistake. By leaving the transverse branch in place with the residual LD muscle in situ, the MSLD gets significant collateral flow through the posterior circulation from branches in the back that perforate the LD and flow into the transverse branch, providing additional flow to the descending branch of the TDA and dominant perforators. Although this is not necessary in most patients undergoing an

MSLD, obese patients undergoing total autologous reconstruction require this additional blood flow.

Although one could argue that the TDAP flap is superior to the MSLD with regard to donor site and functional morbidity, most studies have demonstrated quite comparable outcomes between TDAP and MSLD flaps.⁵ By dividing the muscle all the way up to the bifurcation of the transverse and descending branches of the TDA, the author has never had any difficulty with MSLD flap mobility and inset for breast reconstruction. In the end, the most important variable in these patients is maximizing arterial inflow and venous outflow to support these very large flaps. Perhaps the best strategy for our biggest and most challenging patients might be to delay the MSLD flap. In fact, we have an unpublished series of patients where we have done this with simultaneous fat transfer to allow for delivery of a larger flap with improved blood flow in a second surgical procedure.

Jean-Claude D. Schwartz, MD, PhD

Gwinnett Surgical Specialists, LLC

631 Professional Drive, Suite 300

Lawrenceville, GA 30046

E-mail: gabreastsurgery@gmail.com

DISCLOSURE

The author has no financial interest to declare in relation to the content of this article.

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