

Peer Review File

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Reviewer #1

The authors are to be congratulated on providing a comprehensive perspective on the historical use of the latissimus flap in breast reconstruction and an update on its technical refinements in current practice. Below are a few suggestions that might strengthen the message to the journal's readership:

Thank you very much for the positive comments and suggestions.

Comment 1: Supplement the numerous high quality clinical examples with an illustrated depiction of TDAP perforator location and differences between designing a skin paddle for TDAP flap vs. LD myocutaneous flap.

Reply 1: **Figure 1 shows the cutaneous designs. We applied the position of the perforator to that picture.**

Comment 2: Highlight the difference between the use of TDAP vs. mc LD in irradiated patients who require an implant. There is secondary benefit in reducing risk of periprosthetic infection, implant exposure due to wound dehiscence and capsular contracture by providing muscle coverage over the implant in the irradiated field.

Reply 2: **Done (line 251-154)**

Using the LD has a greater advantage in the irradiated field as it enables all implants to be covered with healthy tissue, clearly reducing the degree of capsular contracture caused by the already irradiated pectoral major and also a positive impact in improving the quality of mastectomy flaps with a history of radiotherapy as well.

Comment 3: While the authors mention immediate lipofilling of the LD flap, I would suggest they expand on this concept as it is a very powerful tool in enhancing extended LD autologous only reconstructions. Perhaps the authors speaking to the technical aspects of lipodelivery with respect to the flaps intrinsic blood supply, plane of placement and potential role in TDAP flaps would help clarify this important adjunct technique to the LD in modern surgical practice.

Reply 3: **Done. (line 300-304)**

Another very powerful tool for completing a total autologous reconstruction is the use of an extended LD and then enhance it with fat grafting in a second time, thereby reaching an even greater volume without the need for a prosthesis. We believe this is an excellent alternative for achieving a total autologous reconstruction especially in centers where microsurgery has not been developed.

Comment 4: The paragraph, "The possibility of performing a TDAP flap is interesting, with a previously traumatized axillary region and without a thoracodorsal pedicle, as in this case the perforator is also fed by secondary circuits." Should either be ex-

panded upon or deleted. As it stands it is somewhat out of context and its usefulness to the readership is akin to suggesting a pedicled TRAM flap can be harvested on the 8th intercostal vessels when the internal mammaries are not available.

Reply 4:

We took it out. Otherwise, a long description needs to be given and it can be overwhelming. The truth is that as a propeller perforator flap used, by not having to dissect the perforator, it can be nourished by the flow that comes from the secondary pedicles in case the thoracodorsal is damaged.

Reviewer #2

General description of the various L.D. pedicle flaps well done in general. Good insight into the variety of clinical situations expressed. However, two areas of necessary details are not discussed.

Thank you very much for the warning in these important details that make the final result and management of eventual complications.

Comment 1: One would be the problem of fat necrosis nodules present especially with repetitive or aggressive fat grafting how is this managed?

Reply 1: Done. (line 390-394)

The surgeon must be aware of the possibility of irregular images and structures while working with fat grafting, and therefore alert the patient. The experience will reduce complications, but certainly the most important thing is to know where to send the control images to be made and this center should have experience in interpreting those findings.

Comment 2: Another is the problem of atrophy of the latissimus muscle with time affecting breast symmetry. How is this addressed in the practice?

Reply 2: Done (line 375-380)

Some studies demonstrated that immediate breast reconstruction using a LD flap led to a decrease in muscle volume of up to 50% without radiotherapy and up to 69 % after postoperative radiotherapy. Particular care should be taken in determining the size of an extended latissimus dorsi flap if the LD is thick or if it occupies a large portion of the flap.(78,79) Some of these authors suggest using larger prostheses, but since the volume changes are not predictable, we prefer future corrections with fat transfer.