ABS ANNALS OF BREAST SURGERY
AN OPEN ACCESS JOURNAL TO BRIDGE BREAST SURGEONS ACROSS THE WORLD

Peer Review File

Article information: http://dx.doi.org/10.21037/abs-20-50

Reviewer A

I would like to thank the authors for sharing nice review and at the same time congratulate them for well-written article.

The manuscript reports on the "Advantages and disadvantages of using the internal mammary artery perforators as recipient vessels for microvascular tissue transfer for breast reconstruction". In general, the authors discuss the advantages and disadvantages of using the internal mammary artery perforators or the internal mammary vessels as recipient to guide the choice of reconstructive microsurgeons.

I have some comments.

1) The word "internal mammary vessels" and the word "internal thoracic vessels" should be unified both in the title and the manuscript.

I have edited this to internal thoracic throughout the manuscript.

2) You mentioned that "perforators are often still present even after mastectomy and delayed reconstruction." How about the delayed-immediate reconstruction case? Please describe it with or without the reference.

I have rephrased this, see Page 8, line 14. They are usually present even with delayed reconstruction ie after a patient had undergone a prior mastectomy and did not have an immediate reconstruction at the time.

Reviewer B

This article summarizes the main issues related with choosing recipient vessels in microvascular breast reconstruction.

I suggest the authors to correct some typing and grammar mistakes such as:

Line 159: preparation time – this spelling error has been corrected.

ABS ANNALS OF BREAST SURGERY
AN OPEN ACCESS JOURNAL TO BRIDGE BREAST SURGEONS ACROSS THE WORLD

Line 185 principle perforator (Main perforator) – principle perforator term was used based on references cited in the next line – it can however be changed to main if needs be?
line 209 shot pedicle (Short pedicle) – this spelling error has been corrected.

Other comments:

This article summarizes the main issues related with choosing recipient vesels in microvascular breast reconstruction. The Internal Mammary vessels offers advantages over the Thoracodorsal pedicle in terms of better flap positioning at the medial pole of the breast and avoiding lateral bulges. It is important to consider the morbidity of harvesting the Internal Mammary vessels, and trying to avoid pleural injury. I reccomend the technique described by Haddok (1), using progressive piecemeal rib cartilage resection with a rounger, until the posterior pericondrium is exposed. I think it is less risky than performing blunt rib subperichondrial dissection – I have cited this as a method of rib resection – Page 6, lines 12-14.

A main concern is the further need of the Internal Mamary Vessels in coronary revascularization. The Internal Mammary artery should be preserved if perforator vessels are found with good size match and adequate flow to be used as recipient vessels. End to side anastomosis could be an option, although doing this is technically demanding. I have mentioned this as a disadvantage to using the internal mammary vessels – page 7, lines 9-22.

We must consider planning the recipient vessels in cases with double free flaps for unilateral breast reconstruction, such as stacked flaps: I usually prefer the distal stump of the Internal Mammary artery and vein to anastomose the second flap in a retrograde fashion, instead performing of flap to flap pedicles anastomoses. Some surgeons do not like to use the retrograde Internal Mammary vein, because of the presence of valves. I did not have any issue with employing this technique.

We should keep in mind other pedicles as recipient vessels in cases in which the Internal Mammary and the Thoracodorsal vessels are not available such as the Thoracoacromial and Lateral Thoracic vessels; the last not only as recipient vessels but also as a donor flap for breast reconstruction harvested from the contralateral breast (2). I have briefly mentioned these as options – page 3, lines 13-14.

The rib cartilage harvested in the cases needed, could be placed in a subcutaneous pocket in the abdominal incision, and used in a second stage to add structural support of the nipple flaps to avoid shrinkage, as shown in the pictures below (figure 1). I have mentioned this as an advantage to rib resection and cited a relevant reference. Page 6, lines 20-21.

ABS ANNALS OF BREAST SURGERY
AN OPEN ACCESS JOURNAL TO BRIDGE BREAST SURGEONS ACROSS THE WORLD

References:
1.-Haddock, NT. Five steps to Internal Mammary Vessel Preparation in less than 15 minutes. Plast Reconstr Surg. 2017. 140(5) 884-886
2.-Lopez, C; Caicedo, J. Breast Reconstruction with a Lateral Breast Free Flap: A New Application of Breast Sharing. Plast Reconstr Surg Global Open 2020 8 (3) pe 2701.

Figure 1: Rib cartilage banking to be used in a latter stage for nipple reconstruction and Montgomery corpuscles of the areola. Above, right: Rib cartilage harvested during Internal Mammary Vessels preparation, placed in a subcutaneous pocket of the abdominal incision. Left, Nipple reconstruction. Design of a Star cutaneous flap, and shaping the rib cartilage as a strut, and diced cartilage in small pieces. Below, right, Insertion of the nipple strut to support the skin flaps. Left, Areola reconstruction with a full thickness skin graft. Diced cartilagle placed behind the skin graft to reconstruct the Montgomery corpuscles.