

# Internal Mammary Artery Perforator Propeller Salvage Flap for Contralateral Mastectomy Defect

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The internal mammary artery perforator (IMAP) flap can be used as either local or free flap, and provides thin and flexible coverage.<sup>1</sup> We present a bilateral mastectomy case where the left mastectomy defect was closed with an IMAP propeller flap harvested from the right breast, instead of discarding it with the mastectomy specimen.

The patient received breast conservation therapy for left breast invasive cancer (stage III) in 2000 while she was pregnant. In 2014, she (44 years old) noted a painful lump in her left breast. Her mammogram showed a 8.5 cm heterogenous left breast mass and right axillary lymphadenopathy. Results of biopsies showed adenocarcinoma in right axillary lymph node and invasive ductal carcinoma in left breast. On physical examination, the patient's left breast was darkly discolored and very firm on palpation compared to opposite breast which was pendulous with grade III ptosis. The oncologic breast surgeon planned bilateral mastectomy and right axillary lymph node dissection.

Prior to surgery, the second and third IMA perforators were located with a handheld Doppler and it was seen that the second IMAP had a transverse course in the upper quadrant of the right breast, approximately 10cm from sternum. Then a 26x11 cm skin paddle was designed on the upper quadrant of the right breast that incorporated this transverse vessel as well as the origin of the second and third IMAPs, lateral to the sternum. The flap was harvested with the superficial adipose layer with a thickness of 1.5cm without including any breast tissue. Then the whole flap was transposed 180 degrees clock wise in a propeller fashion to the left mastectomy defect without any tension (Fig. 1). The patient was followed for 6 months (Fig. 2) and the flap healed without any complication despite her severe comorbidities of heart failure with EF 40%, BMI 41.9 kg/m<sup>2</sup> and history of stroke. Pathology result showed invasive ductal carcinoma in the left mastectomy specimen. There were no malignant findings in the right breast mastectomy specimen and 1 out of 18 right axillary lymph nodes was positive for metastatic carcinoma.

As far as we know, our flap is the largest and the thinnest IMAP flap and the only one used as a mastectomy salvage flap in the literature.

## REFERENCE:

1. Neligan PC, Gullane PJ, Vesely M, Murray D: The internal mammary artery perforator flap: new variation on an old theme. *Plast Reconstr Surg* 2007, 119(3):891-893.

## FIGURE LEGENDS

**Figure 1:** Propeller motion of the IMAP flap

**Figure 2:** View at post-op 6 months



