

IMMEDIATE PARTIAL BREAST RECONSTRUCTION WITH CHEST WALL PERFORATOR FLAPS FOR BREAST CANCER. RESULTS FROM AN EARLY AUSTRALIAN SERIES

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INTRODUCTION

Immediate partial breast reconstruction (IPBR) with chest wall perforator flaps allows breast conservation in patients with small to moderate size breasts and oncological resection involves a significant percentage of total breast volume (>20%). It allows preservation of symmetry and cosmesis avoiding the need for symmetrisation contralateral surgery. The chest wall perforator flaps can utilize the lateral intercostal artery (LICAP), anterior intercostal artery (AICAP) or medial intercostal artery (MICAP).

We describe the utility, safety and early outcomes of an early series of single stage IPBR using chest wall perforator flap by a single oncoplastic breast surgeon.

METHODS

Retrospective audit of consecutive series of 16 patients who undertook chest wall perforator flap IPBR from August 2016 to January 2019. Patients then underwent biopsychosocial assessment using the BREAST-Q version 2.0© reconstruction questionnaire¹ for breast cancer patients using the post operative questions. The BREAST-Q reconstruction questionnaire produces a score on a scale from 0-100 that may be interpreted in light of the normative scores as described by Mundy². All patients were assessed within 30 months of their surgery.

Surgical technique

Six patients had lesions localised with hookwire (2 bracketed) and others by palpation+/- on table ultrasound. Patients were positioned supine with arm extended and operative side was bolstered with gel bag to improve access. Perforators were marked using hand held Doppler (Minidop ES-100VX) and the flaps were marked in an oblique fashion along the inferolateral mammary fold (figure one).



Figure One. Preoperative marking and patient positioning.

After resection of cancer, native breast tissue margins were marked with raw of clips and axillary surgery was performed using the same incision. De-epithelialised flaps were either rotated or transposed to the defect and in some cases folded to fit the defect. A 10 French drain was placed (figure two).

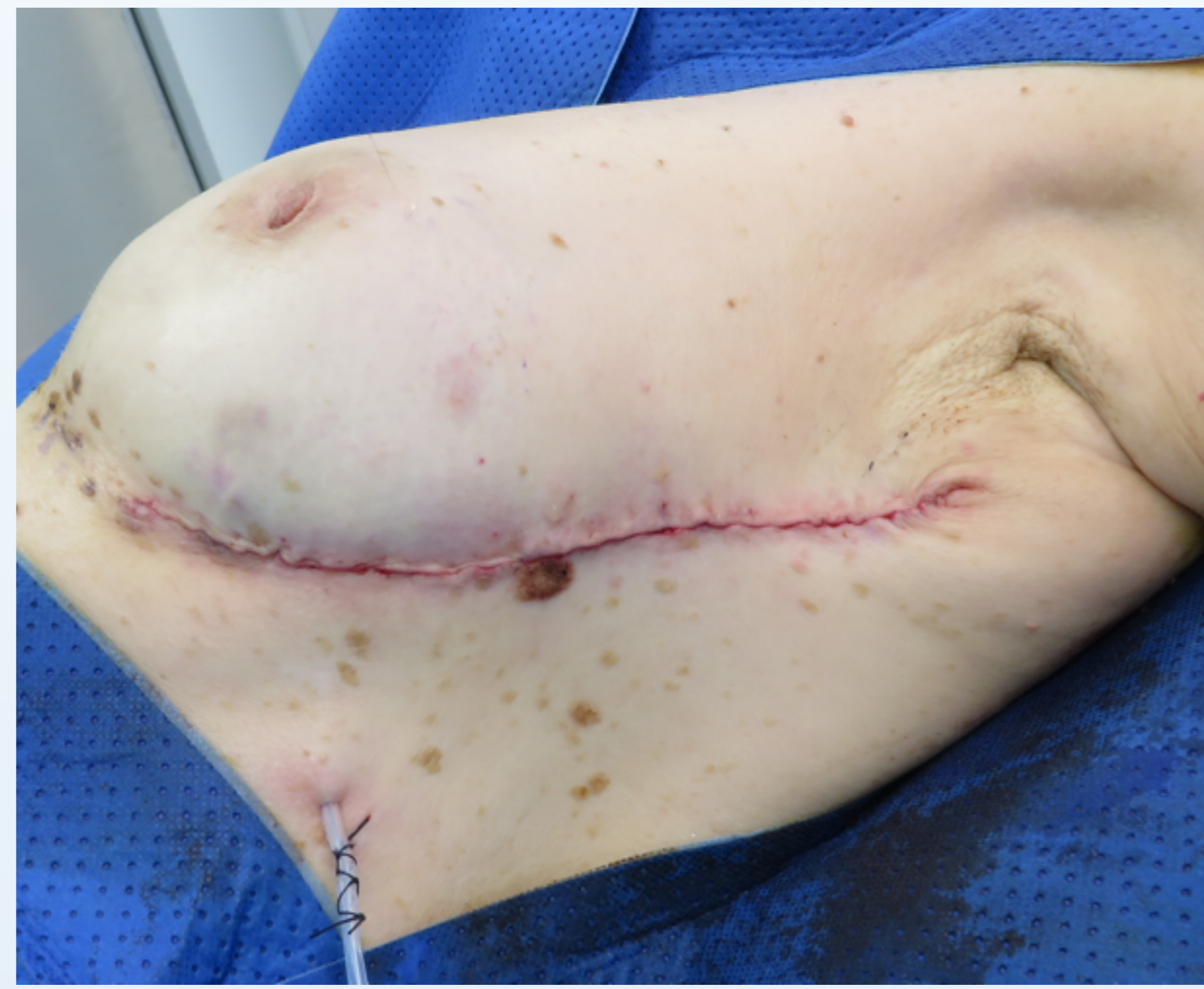


Figure Two. Post operation with drain in situ.



Figure Three. Four weeks post operation.

RESULTS

The median age range of our patients was 58 (range 48-73) years. Five patients underwent AICAP and eleven underwent LICAP in breasts ranging from a B cup 37.5%, C cup 50% and D cup 12.5%. Histopathology included invasive ductal carcinoma (IDC) 50.0%, invasive lobular carcinoma (ILC) 31.2%, ductal carcinoma in situ (DCIS) 12.5% and others 6.25%. Quadrants involved were 64.7% in the outer quadrants, 23.5% lower and 5.9% central. Margin status was clear in 87.5% of cases and in two cases (12.5%) the margin was involved with unexpected DCIS adjacent to index cancer. In one patient with focally involved margin re-excision two weeks later resulted in a clear margin and the other patient with widely involved margins with radiologically occult DCIS underwent nipple skin sparing mastectomy and immediate implant based reconstruction via the same incision. All the patients who achieved final breast conservation had adjuvant radiotherapy.

Lesion weight was median 63.5grams (30-103g), preoperatively on imaging the median size of cancer was 30mm (14-58mm) this correlated with a histological size of 33mm (15-60mm). Estimated median volume excised was 24% (20-40%) of the total breast volume.

There were no post-operative complications. Two patients had mild partial volume loss at the 2 year follow up.

The BREAST-Q reconstruction questionnaire resulted in 75% participation. BREAST-Q scores are demonstrated graphically below.

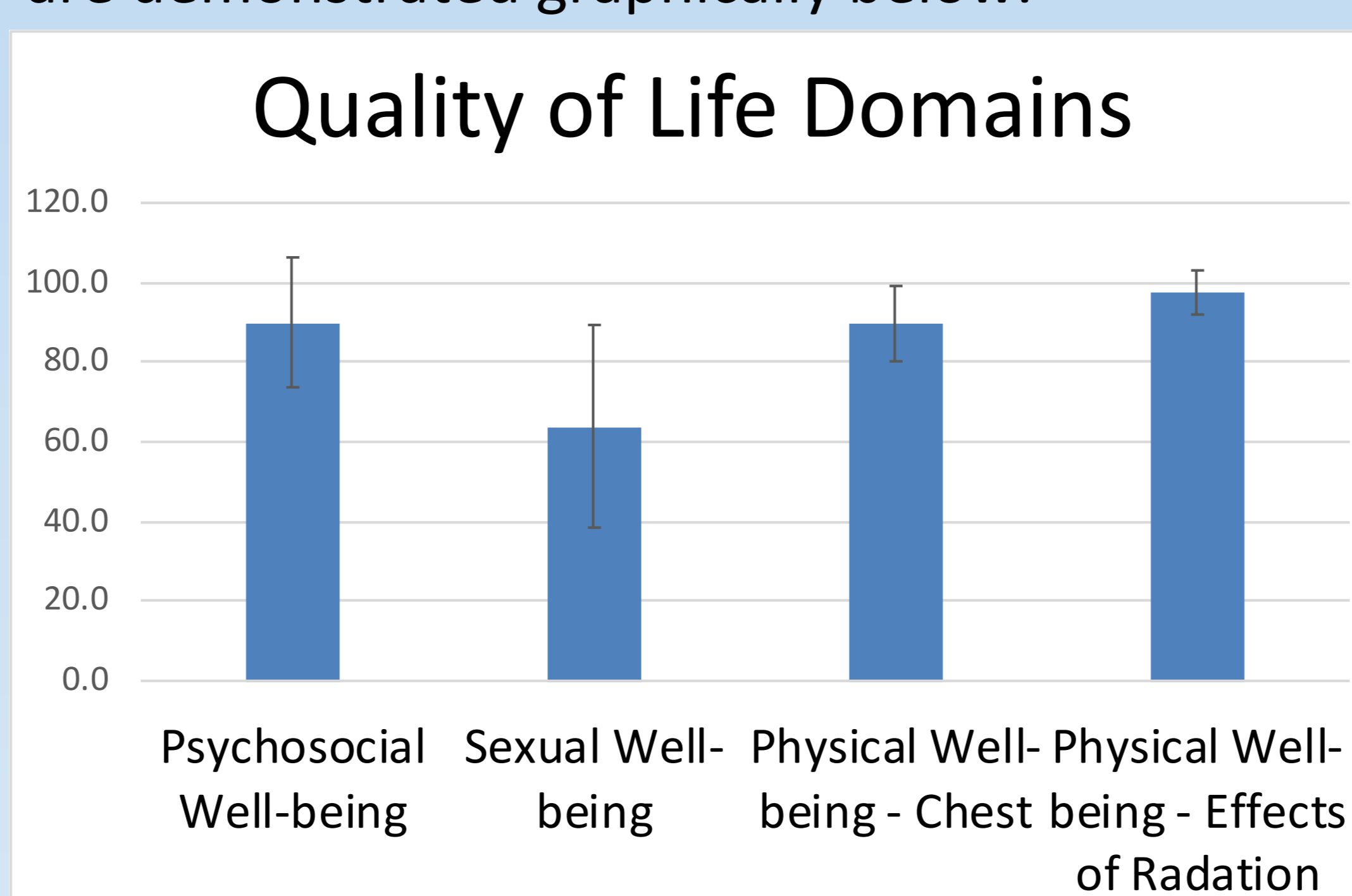


Figure Four. Quality of Life Domains – BREAST Q Scores.

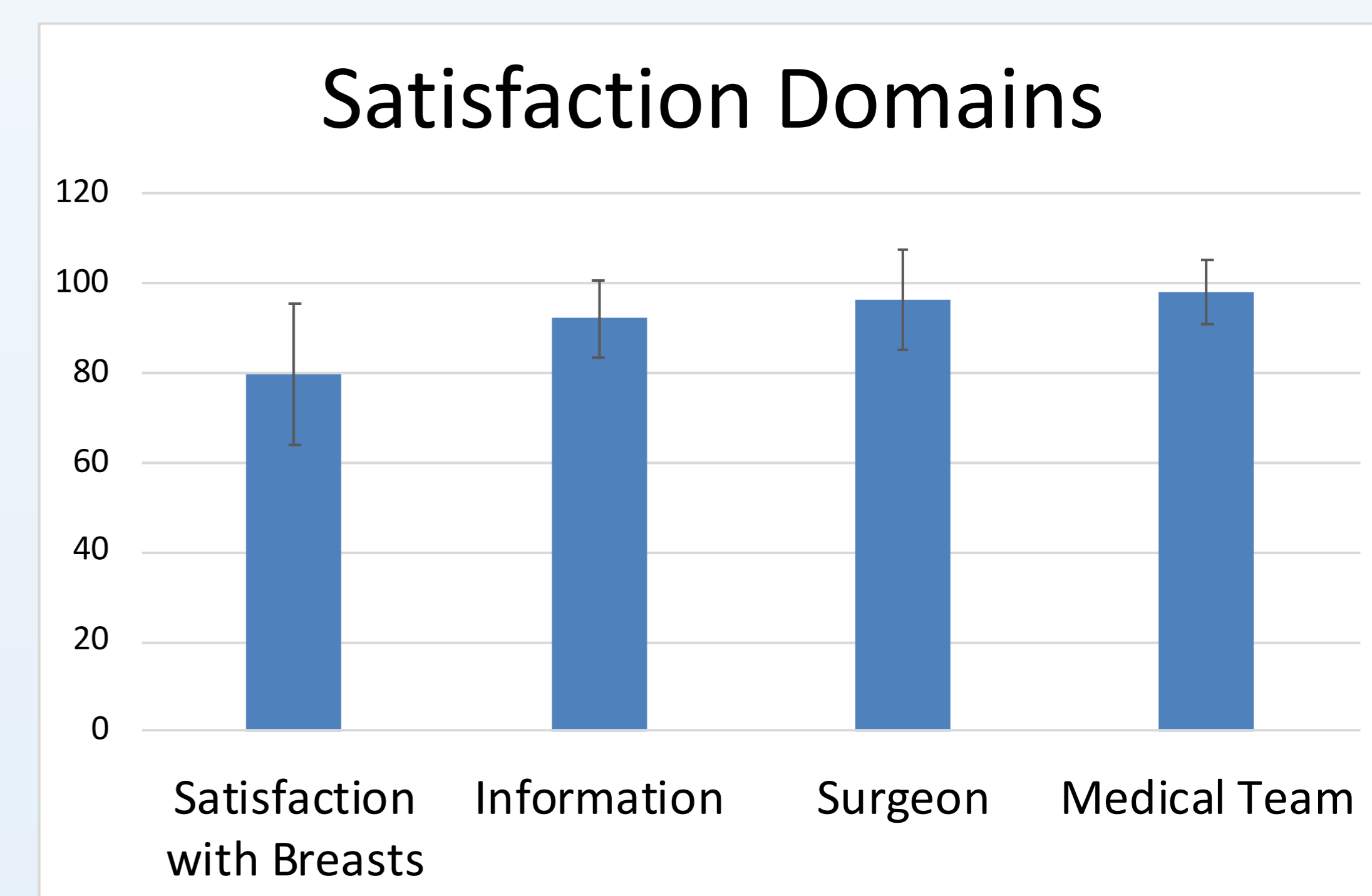


Figure Five. Satisfaction Domains – BREAST Q scores.

DISCUSSION

IPBR using chest wall perforator flaps have been increasingly adopted by Australasian surgeons and patients in the recent years. A modification to marking of the flaps along the inferior-lateral mammary folds have allowed supine positioning of patients and axillary surgery via the same incision. In this series the re-excision rate was 12.5% both due to unexpected DCIS associated with index cancer. In one patient early re-excision allowed clearance to be obtained with preservation of flap. In the other patient the placement of incision allowed nipple skin sparing mastectomy and implant reconstruction. Both LICAP and AICAP flaps were robust with no immediate complications. However partial volume loss after radiotherapy can occur and it has led to us to design about 10-20% larger flap than the defect in the later part of the series.

The BREAST-Q reconstruction questionnaire demonstrates our patients' quality of life was overall very good with limited pain and minimal disturbance to everyday living reflected in the high BREAST-Q scores relating to psychosocial well-being, physical well-being in the chest and post radiotherapy. Sexual well-being did not rate as highly with significantly lower scores.

Examination of the satisfaction related BREAST-Q scores relating to to breasts again revealed relatively high satisfaction our patients breasts overall following their reconstruction. Information, satisfaction with their surgeon and satisfaction with the medical team that cared for them following their reconstruction also scored highly.

CONCLUSION

IPBR with chest wall perforator flap is a useful, safe and effective option for breast cancer patients who choose to have breast conserving surgery, have small to moderate size breasts and require relatively large volume resection.

The authors of this poster have no conflicts of interest to declare. The BREAST-Q version 2.0© reconstruction questionnaire was performed after ethics approval had been obtained from Nepean Public Hospital, Australia. Approval number: 2019/ETH12236.

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