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Reply to: 'Comment on macrovascular arteriovenous shunt (MAS) between ulnar artery and its venae commitantes'

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surgery (TRAS) pathway. The authors concluded that the ERAS system had decreased in-hospital length of stay (LOS) and reduced postoperative morbidity. Altogether, 181 flaps in 100 patients were analysed retrospectively (49 in ERAS cohort, 51 in TRAS cohort). The surgical techniques employed mainly included muscle-sparing transverse rectus abdominis myocutaneous (TRAM) and deep inferior epigastric perforator (DIEP) flaps. The authors are to be praised for their detailed assessment of acute pre-operative and post-operative management in ERAS pathway, whilst comparing facets of the TRAS pathway. Whilst we agree that there may be a beneficial role in the future of ERAS protocols at surgical institutions for breast surgery, there are a few issues which require clarification in this study.

Firstly, there are inequalities in patient demographics across the ERAS and TRAS cohort. The patients in the TRAS cohort had a higher BMI compared to ERAS patients ($P = 0.008$) with more chronic pain diagnoses and elevated pain scores ($P = 0.004$). These differences would naturally ensure that the ERAS cohort have a shorter hospital LOS.

Secondly, we feel that there is bias towards better post-operative outcome and reduced in-hospital LOS in the ERAS cohort due to a particular surgeon favouring DIEP flaps compared to muscle-sparing TRAM flaps. Altogether 67% in the ERAS cohort and 42% in the TRAS cohort received DIEP flaps. A study by Kroll et al., which compared 158 patients undergoing breast reconstruction with DIEP and TRAM flaps, reported reduced post-operative in-hospital LOS by less than one day for patients receiving DIEP flaps.[2] Whereas, in Batdorf et al. the ERAS cohort had a significantly less in-hospital LOS compared to TRAS cohort by more than 1.5 days.[1] Furthermore, Kroll et al. also reported reduced patient requirement for postoperative morphine with DIEP flaps and thus reducing the initial postoperative pain threshold.[2] Therefore it seems that a higher proportion of DIEP flaps in the ERAS cohort, is likely to be a large contributor to better post-operative results for the patient.

Thirdly, all the patients from the TRAS cohort were admitted into the intensive care unit (ICU) following breast reconstruction compared to one patient from the ERAS cohort. This is more likely due to these patients with a higher BMI and proportion of comorbid conditions as shown in Table 2 by Batdorf et al.[1] It seems conceivable that those patients who are admitted into ICU, there will be a lower threshold to give pain relief and therefore the patients in the TRAS cohort will need to be kept into hospital for longer. So the environmental setting may have a biased role to the use of patient-controlled analgesia in the TRAS cohort. This is strengthened by the fact that the overall 30-day major complication rates were not significantly different between the groups as the secondary end-point for the study.

In conclusion, we appreciate the efforts of the authors in setting up the ERAS protocol for microvascular breast reconstruction and its potential role in future surgical institutions. We feel that patient randomisation could have been improved to include an equal number of DIEP and TRAM flaps in each group to eliminate the bias of favouring one surgical technique over the other. Ultimately, the author's conclusion that ERAS group did better postoperatively compared to TRAS group can not be fully validated from the study. Further work would be required to avoid future bias possibly by adding an exclusion criteria which wasn't present in this study.

Conflict of Interest/Funding

None.

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Reply to: 'Comment on macrovascular arteriovenous shunt (MAS) between ulnar artery and its venae commitantes'

Dear Sir,

I wish the authors of the comment[1] read the article "Macrovascular Arteriovenous Shunt (MAS) Between Ulnar Artery and Its Venae Comitantes: The Cause of Arterial Thrombosis and Insufficiency in a Distally-based Ulnar Forearm Perforator (UAP) Flap Used For Intraoral Reconstruction" more carefully, since both of their comments are wrong.

The article is talking about "macrovascular" and not "microvascular" arteriovenous shunts as the authors quote erroneously.[2]

Further, macrovascular arteriovenous shunts are congenital anatomic features and have little in common with microvascular arterio-venous anastomoses performed in finger replants/revascularizations with no venous outflow.[3,4]

Sincerely

Ethical approval

N/A.

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Conflict of interest

None.

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Extended vulvar immediate reconstruction using the bilateral transverse pedicled DIEP flap

Dear Sir,

Large perineal defects after vulvar cancer resection require a customized surgery to close the defect and anatomically reconstruct the vulva. Over the past twenty years, abdominal perforator flaps are increasingly used in plastic surgery to reduce donor site complications. In this report, we present the first case using bilateral transverse pedicled DIEP flap for extended vulvar immediate reconstruction.

A 58-years-old female was referred for a very extensive squamous cell vulvar carcinoma classified as T4N1M1 and FIGO IVB. Treatment had been delayed due to denial of disease. The tumor, located on the left labia majora, measured 25 × 13 cm from the pubic area to the anus. Bilateral groin and iliac lymphadenopathies as well as a pulmonary nodule were detected on a CT scan. The gynecology oncologic tumor board decided to initiate neoadjuvant radiochemotherapy. A cumulative dose of 54 Gy in 30 fractions was delivered with intensity-modulated radiation therapy, and concomitant monochemotherapy was administered with cisplatin. The tumor size was reduced to a 5 cm residual tumor (Figure 1a). The gynecologic oncologic team performed a large perineal resection (Figure 2a). At the same time, the plastic surgeon harvested two pedicled DIEP flaps. Via a median incision, the transversally oriented abdominal skin paddle was divided into two separate flaps (Figure 2b). A subcutaneous tunnel was dissected on both sides in the hypogastric areas, and flaps were cautiously transferred to the defect (Figure 1b). The operating time was 360 min, and complete wound healing was achieved after two months without any complications. The 17 mm pulmonary metastasis was surgically treated by a right middle lobectomy. One year after surgery, the patient presented neither functional deficit nor esthetical disturbance. The patient has however gained 10 kg and the reconstruction was slightly too bulky (Figure 1c). She refused the liposuction since she didn't felt any discomfort. Skin recurrence of 1 cm in size in the pubic area was treated by surgical resection and brachytherapy.

Recent publications have highlighted the benefit of perforator flaps for pelvi-perineal reconstructions. The pedicled deep inferior epigastric perforator (DIEP) flap is presented as a technical evolution of the vertical rectus abdominis myocutaneous (VRAM) flap. In 2005, the use of a vertical DIEP flap for vulvar reconstruction was reported for the first time.[1] Because the DIEP flap is somewhat bulky, authors have reported the use of a thinned flap. Clinical and anatomical findings showed that deep inferior epigastric perforators cross the deep adipose layer and the Scarpa's fascia before branching into five or more branches at this level. The rich vascular network containing anastomoses is primarily located in the subdermal plane.[2] In addition, the superficial inferior epigastric veins (SIEV),

Abbreviations: EHI, Entamoeba histolytica infection.