



## Letter to the Editor

### Changing goals in the management of breast carcinoma patients towards preservation of femininity and quality of life

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#### Abstract

Breast cancer is the commonest cancer in women worldwide. In the developing countries of Asia, the health care burden on account of breast cancer has been steadily mounting. Over 100,000 new breast cancer patients are estimated to be diagnosed annually in India.<sup>1</sup> As per the ICMR-PBCR data, breast cancer is the commonest cancer among women in urban registries of Delhi, Mumbai, Ahmedabad, Calcutta, and Trivandrum where it constitutes > 30% of all cancers in females. Previous literature on mastectomy indicates

that the operation may be perceived by the patient as a threat to her femininity. Breast cancer survivors have dissatisfaction with appearance, perceived loss of femininity and body integrity, self-consciousness about appearance, and dissatisfaction with surgical scars...

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#### Introduction

Breast cancer is the commonest cancer in women worldwide. In the developing countries of Asia, the health care burden on account of breast cancer has been steadily mounting. Over 100,000 new breast cancer patients are estimated to be diagnosed annually in India.<sup>1</sup> As per the ICMR-PBCR data, breast cancer is the commonest cancer among women in urban registries of Delhi, Mumbai, Ahmedabad, Calcutta, and Trivandrum where it constitutes > 30% of all cancers in females.

Previous literature on mastectomy indicates that the operation may be perceived by the patient as a threat to her femininity. Breast cancer survivors have dissatisfaction with appearance, perceived loss of

femininity and body integrity, self-consciousness about appearance, and dissatisfaction with surgical scars. Keeping the plights of these patients in mind, the nature of breast surgeries have evolved from aggressive and mutilating treatment to conservative approach. Today, the aesthetic satisfaction of breast cancer patients coupled with the oncological safety is the goal of the modern breast surgeon.

For non-palpable lesion, wire localization, intraoperative ultrasound (IOUS) and radioguided occult lesion localization (ROLL) have evolved. Breast conserving surgery (BCS) has become the gold standard for patients with early breast cancer.<sup>2</sup>

Robotic nipple sparing mastectomy" (NSM) with immediate reconstruction and NAC (nipple areolar complex) preservation are the latest weapon in the armamentarium of the breast surgeon.<sup>2</sup> The best candidates for robotic nipple sparing mastectomy are the BRCA gene positive patients with positive family history and with no evidence of malignancy. This surgery is planned as a prophylactic measure to prevent the development of breast cancer in these patients. The key strength of this innovative procedure is that only a very small, hidden scar with significant reduction of post-operative pain and hospitalization period. The highly precise nipple-sparing mastectomy with immediate breast reconstruction, also avoids skin flap necrosis and thus has significantly reduce the adverse psychological consequences following mastectomy and have increased self-esteem of the patients. Recently India's first robotic breast surgery with reconstruction was performed in Rajiv Gandhi Cancer Institute & Research Centre during RGCON 2017. The purpose of this article is to educate our reader how we have tailored our anaesthetic plan to cater the recent surgical advances in breast surgery with better patient satisfaction and prognosis.

Anesthetic management of the breast surgical patient has an important effect on patient outcome.<sup>3,4,5,6</sup> The immediate effects like the anesthetic-associated nausea and vomiting and control of postoperative pain. The long-term effects may be risk of a breast cancer recurrence and even reduced possibility of developing distant metastases. Newer techniques for intraoperative management, including paravertebral blocks,<sup>7</sup> thoracic epidural, PECS block<sup>8</sup> influence both immediate and long-term outcomes that increase patient satisfaction and prognosis. The main aim of our anaesthetic management is evidence based usage of drugs which are known to decrease the incidence of tumor recurrence and metastasis and yet provide balanced anaesthesia with pain free postoperative period. Although there are studies suggesting that regional anaesthesia has tumoricidal effects<sup>9</sup>, also inhibit neuroendocrine stress response and decrease the need of opioids but majority of the patients are very anxious and psychological upset at the thought of their disfigurement and opt for general anaesthesia.

All our patients undergo a thorough preanaesthetic check-up. A huge challenge exists with each patient, a very young patient with aggressive disease to old patients with multiple co morbidities. Detailed systemic evaluation is done for optimization of the patients prior to surgery to decrease the peri operative morbidity. Every patient is counselled and detailed information is given regarding the treatment options available. Various anaesthesia plans are also discussed so that the patient can choose between regional anaesthesia with sedation

and general anaesthesia. The patients who opt for regional anaesthesia are given paravertebral blocks with dexmedetomidine infusion. But majority of our patients opt for general anaesthesia and it is also the preferred anaesthesia plan for robotic mastectomies. Prior to shifting to the operation theatre all patients receive acid prophylaxis and aprazolam tablet and the operative site is marked. In the operation theatre after applying standard monitors, operative site is identified and confirmed with the surgeon and the patient. Intravenous access is taken in the arm opposite to the side of the surgery or in the leg as may be required in case of bilateral mastectomy with lymph node clearance. Patients are induced with injection propofol 2mg /kg, fentanyl 2µ/kg, injection atracurium 0.5mg/kg unless there is any history suggestive of contraindication to the above drugs. Thereafter I GEL is inserted or end tracheal tube is used to intubate the trachea depending on the duration and type of surgery. For robotic mastectomies with reconstruction, we prefer endotracheal intubation of the trachea, as robotic arms occupy most of the cranio thoracic regions and the patient's feet are towards the anaesthesia machine. Two anaesthesia circuits attached in series and extension lines for end tidal carbon dioxide and intravenous fluids is mandatory in robotic breast surgeries. Anaesthesia is maintained with oxygen, air and sevoflurane MAC 1 by low flow anaesthesia technique (1l/min). Infusion of atracurium is titrated according to neuromuscular blockade and depth of anaesthesia is monitored using BIS. Fentanyl or dexmedetomidine infusions are used for prolong robotic surgeries. Use of nitrous oxide and morphine is avoided because of their association with postoperative nausea and vomiting and in long term both morphine and nitrous oxide are known to increase the incidences of recurrence and metastasis. Proper positioning is done with special care for the eyes and other pressure points. At the end of the surgery modified Pecs block is given 0.25% of bupivacaine 10ml between pectoral major and minor and 10-15ml at the serratus anterior digitations which provide analgesia for 6-8 hours.

## Conclusion

Thus while our surgeons are at their toes to provide aesthetic satisfaction coupled with oncosafety, we anaesthetist by including drugs like propofol whose metabolic products are being explored for cancer therapy, paravertebral block and PECS block and tramadol which is known to preserve NK activity, we aim to provide better peri-operative patient satisfaction and prognosis.

**Conflicts of interests:** All authors have filled the ICMJE conflict of interest form and declare that they have nothing to disclose.

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