

Background

- Neoadjuvant chemotherapy (NAC) is the preferred option of treatment in locally advanced and selected cases of early stage breast cancer.
- One of the major aims is to downstage tumor size to allow conservative surgery with the most acceptable cosmetic and oncologic outcome, which is achievable with oncoplastic surgery (OPS).
- ✤ After NAC, excess degree of fibrosis leads to difficulties to accurately predict margin status intraoperatively. However, the prediction of negative margins is a must to avoid a secondary mastectomy in OPS with excess tissue rearrangements.
- The aim of the presented study is to determine the value of intraoperative sonography (US) guidance during OPS after NAC to localize the residual cancer, to achieve negative margins at index procedure and to decrease secondary interventions.

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Patients and Methods

✤ A single-institution, retrospective review of a prospectively maintained database was analyzed.

✤ No patient had preoperative localization with wire or radiotracer.

✤ OPS procedures were decided according to patient and tumor characteristics and patient preferences.

Tumor localization, breast/tumor volume ratio, glandular density and patient preferences were the major factors to make selection.

✤ All of the patients underwent level I or II OPS with regards to the abovementioned criterion.

Intraoperative real-time sonographic localization, sonographic margin assessment during resection, macroscopic and sonographic examination of specimen, cavity sonography and shavings (CS) was done as the standard procedure.

✤ No frozen assessment was performed.

- surgery.
- complete response.
- old (range, 34-72)
- evaluated sonographically.
- positivity.
- carcinoma in situ (DCIS)
- rate was 92%.
- in 3% of patients

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Results

The study included 253 patients treated with NAC followed OPS and axillary nodal

✤ 102 patients (40,3%) achieved pathologic

US-guided OPS accomplished successful localization of the targeted lesions in all patients. Patients were on average 49 years

Tumor free margins were obtained by means of ultrasound guided OPS in 90% of margins

The involved margins were identified by the surgeon via specimen US in %43 of the cases and confirmed by cavity shavings.

Permanent sections of the resected specimens and cavity shavings revealed no need for further intervention due to margin

US-guided-OPS with real-time specimen US were unable to predict involved margins in invasive lobular carcinoma and ductal

✤ No re-excision or mastectomy was required.

✤ For a setting without CS, the negative predictive value (NPV) of US guided OPS

Intraoperative US was found to over and underestimate tumor response to NAC both

Conclusion

- Continuous US-guidance with specimen sonography and cavity scan seems to be a valuable modality to perform efficient OPS at index operation with no additional localization method after NAC.
- Especially, when CS is integrated as a standard to OPS, US-guidance seems to provide safe surgery for patients with no false negativity.
- The accuracy of sonographic guidance should be questioned in case of lobular histology and DCIS after NAC.

References

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