

from deprived areas were not offered IR, but the ones who refused had equal distribution.

**Conclusions:** none of the reasons for not offering IR represent absolute contraindications. Decisions about refusal are based mostly on patients' subjective intuitions. Further, a greater proportion of patients from deprived areas were not offered IR, while from affluent areas were more likely to be offered. We believe, therefore, that detailed counselling about reconstruction of each patient is an absolute necessity.

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#### **Incomplete Tumour Excision Margins During Therapeutic Mammoplasty – Assessment of Predictive Factors**

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**Introduction:** Pathologically clear tumour resection margins are particularly important during therapeutic mammoplasty (TM), since re-excisions may not be oncologically safe. Therefore, most patients with incomplete margins will undergo completion mastectomy. In this study our aim was to identify predictive factors for incomplete excisions in TM.

**Methods:** Data of 62 patients who underwent TM were retrospectively analysed. Patients' and tumour characteristics and operative techniques were correlated with assessment of pathological margins (Fischer exact and t-tests).

**Results:** 11 of 62 patients (17.7%) had incomplete pathological margins on final histology. Incomplete tumour resection margins correlated with pathological whole tumour size (incomplete: 36.7 mm [12–62] vs. complete: 25.5 mm [8–55];  $p=0.023$ ), presence of multifocal cancers (incomplete: 5/11 vs. complete: 5/51;  $p=0.012$ ) and presentation (incomplete: 11 symptomatic vs. complete: 19 screening, 22 symptomatic;  $p=0.005$ ). Application of intraoperative specimen X-ray favoured complete excision, too (spec. X-ray: 12.5% incomplete vs. no spec. X-ray: 20%). However, there was no statistical association found with patients' age, BMI, tumour location, radiological tumour size, techniques of TM, weight of excised specimen or tumour grade.

**Conclusions:** Although the above patient number is relatively low, our data suggest that more precise oncosurgical planning is advised in case of large and multifocal cancers. Perhaps routine use of intraoperative specimen X-ray would facilitate complete excision during TM.

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#### **Ultrasound-guided Lumpectomy is Associated with Clear Resection Margins in Palpable Breast Cancer**

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**Background:** Palpation-guided lumpectomy often results in an unnecessarily wide resection of adjacent healthy breast tissue, while the rate of tumor-involved resection margins is still high. The purpose of this study was to evaluate ultrasound guided surgery for palpable breast cancer with comparing the standard palpation-guided surgery in terms of the extent of healthy breast tissue resection, the percentage of tumor-free margins, and cosmetic outcomes.

**Materials and Methods:** Patients with breast cancer undergoing lumpectomy with using ultrasound were included. Ultrasound margins measured intraoperatively were prospectively recorded and compared with pathology margins. A cohort of 80 women who underwent palpation-guided lumpectomy as used for a comparison group. Data included patient age, BMI, menopausal status, tumor type, size and location, N stage, tumor grade, the presence of lymphovascular invasion and multifocality, and receptor status. Intraoperative findings and cosmetic outcomes were also analysed.

**Results:** A total of 84 women underwent US-guided lumpectomy, and 80 women underwent palpation-guided lumpectomy. There were no difference between 2 groups with respect to patient demographics and tumor characteristics. The rate of re-excision was 17% for palpation-guided surgery group, and 6% for US-guided surgery group ( $p=0.03$ ). There was good correlation between closest margins recorded by US and pathology margins ( $r=0.76$ ,  $p=0.01$ ). Comparing resection volume with calculated from detailed postoperative pathology reports, we found that the volume of resection was significantly larger in the palpation guided group despite the similar size of tumor ( $p=0.048$ ). Cosmetic outcome of surgery was

equivalent between groups. Fifty-five of 60 patients (92%) in the palpation-guided lumpectomy group and 67 of 71 patients (94%) in the US-guided group has been rated the cosmetic outcome good or excellent.

**Conclusions:** Ultrasound-guided lumpectomy for palpable breast cancer is a simple, convenient, and accurate technique to ensure adequate margins while keeping the resection volume to a minimum. Most importantly, US-guided surgery decreases the need for second surgeries. Just as US has become a standard tool of the breast surgeon's office practice, we propose the role of intraoperative US during excision of palpable breast tumors as well.

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#### **The Fleur-de-lys Modification for Latissimus Dorsi Flap Breast Reconstruction**

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**Background:** The fleur-de-lys modification of latissimus dorsi (LD) breast reconstruction has been described to address skin deficiencies in the delayed setting when achieving projection and a rounded inferior pole is challenging, particularly after chest wall radiotherapy.

**Methods:** Retrospective casenote review of patients undergoing LD breast reconstructions performed consecutively by the same Consultant between January 2005 and June 2011.

**Results:** Eighty-two patients underwent 42 immediate and 52 delayed LD breast reconstructions (25 conventional and 27 modified fleur-de-lys). The median age was 53 (21–65 years) with a mean BMI of 26.4 (19.5–42.5 kg/m<sup>2</sup>). Follow-up ranged from three to 77 months. The median length of stay after unilateral immediate, delayed conventional and delayed fleur-de-lys was 7 days. No patient experienced latissimus dorsi flap loss. There were 5 minor complications in the immediate group, 3 in the conventional delayed and 7 in the modified fleur-de-lys delayed group – of which 5 had received radiotherapy. These were delayed healing of LD flap skin anteriorly (1), delayed healing of donor site (1), haematoma (2) and infection (3).

**Conclusion:** A fleur-de-lys modification is a safe reproducible adjunct to consider when planning latissimus dorsi breast reconstruction, particularly after radiotherapy in the delayed setting.

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#### **Phase II Study on Radiofrequency Ablation for Early Breast Cancer Patients**

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**Background:** We previously conducted phase I study on radiofrequency ablation (RFA) followed by breast-conserving surgery (BCS). Complete pathological ablation of breast tumour was shown in 26 of the 30 patients registered (87%). RFA was feasible and reliable for T1N0 breast cancer patients without extensive intraductal components (Breast, 18:130–4, 2009). To examine clinical utility of RFA instead of BCS, we started a phase II trial in 2009.

**Patients and Methods:** T1 and sentinel node-negative breast cancer patients treated with or without primary chemotherapy were enrolled. Primary endpoint is breast deformity after RFA and secondary endpoints are ipsilateral breast tumor recurrence and quality of life examined with FACT-B. RFA was performed using a LeVeen electrode and an RF-2000 generator (Boston Scientific Corporation, USA) following Izzo's protocol (Cancer, 92:2036–44, 2001). Breast deformity and breast imaging were recorded at 3, 6 and 12 months after RFA.

**Results:** As of October 2011, 16 of the 19 eligible patients agreed to undergo RFA. There were no severe adverse events in all patients except pain relief with NSAID for a few days. Most patients received adjuvant therapy and breast irradiation. MR mammography showed degenerative change with ring enhancement that was consistent with red ring observed in the margin of ablated breast specimen at phase I study. All patients have been disease-free at the median follow-up of 18 months.

**Conclusions:** RFA is a promising technique for local control of breast cancer. MR mammography is also useful for monitoring ablated breast lesion.

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#### **Trans-nipple Z-plasty with Interceed Insertion Technique for Focal Defect of Breast**

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**Introduction:** Numerous oncoplastic techniques with absorbable materials had been reported for breast conserving surgery. Authors introduce the