contralateral symmetrization. The procedure was proposed for patients in whom conservative treatment was possible on oncologic grounds but where a standard lumpectomy would have led to a poor cosmetic result. Standard institutional treatment protocols were followed. Depending upon ongoing protocols at the time of treatment, patients were proposed pre-operative chemotherapy to downsize their tumours.

Results: In a series of over 300 patients, mean tumor size was 32 mm (range 10–110). The mean weight of the lumpectomy specimen was 220g, as compared with 30g for a standard lumpectomy, showing the extent of resection one can perform by performing these oncoplastic techniques. Postoperative treatments (chemotherapy, hormonal treatment or radiotherapy) were not modified because of the surgical treatment, and all patients received post-operative radiotherapy. Results showed actuarial 5-year local recurrence rate of 8% (1.8−16.9), overall survival rate of 93.7% (91–100) and metastasis free survival rate of 88.4% (72.5−93.2). Cosmesis was favourable in 82% of cases.

Conclusions: The use of oncoplastic techniques and concomitant symmetrization of the contralateral breast allows extensive resections for conservative treatment of breast carcinoma and results in a favourable oncologic and aesthetic outcome. The indications for oncoplastic surgery are patients for which the ratio between tumor volume and breast volume is such that a standard excision is not technically feasible, whilst conservative treatment is safe by oncologic grounds. This approach is useful in extending the indications for conservative therapy. It is fully compatible with preoperative chemotherapy and postoperative radiotherapy and chemotherapy, and is now part of our multidisciplinary approach for breast cancer treatment.

15 Proffered Paper Oral

Intra-operative sentinel lymph node metastasis detection in breast cancer by "One-step Nucleic Acid Amplification (OSNA)" – results of the French multicentre prospective study

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Background: Sentinel lymph node (SLN) biopsy is widely used as a staging procedure in early breast cancer. Conventionally used procedures for intra-operative assessment are frozen sections or touch imprint cytology, but they show insufficient sensitivity. The OSNA method was developed to accurately detect metastases ($\geqslant$0.2 mm) in an intra-operative setting. The objective of this French multicentre (8 centres) prospective study was to evaluate diagnostic performance of OSNA in comparison to intensive histological examination.

Material and Methods: The semi-automated OSNA test is based on a short sample preparation step and subsequent rapid amplification of reverse-transcribed CK19 mRNA. Results are obtained within 30 minutes. A total of 311 SLN from 145 breast cancer patients were analysed. Fresh SLN were cut into four slices. Two alternate slices were analysed by OSNA while the remaining two slices were subjected to Haematoxylin & Eosin and immunohistochemistry (IHC) examination (5 levels with CK19 and AE1/AE3). In case of discordant results, the lysates of homogenized samples were subjected to RT-PCR and Western Blotting in order to verify OSNA results and to detect whether the discordant results were caused by tissue allocation bias (TAB): localisation of tumour deposits in only one slice due to study design.

		Histological examination (H&E and IHC)		Total
	Nodes	Positive (size $\geqslant$0.2 mm)	Negative	
OSNA	Positive	29	10#	39
	Negative (<2.5×10^2 copies/ml)	6* (2)	266	272 (268)
	Total	35 (31)	276	311 (307)

() Results after Discordant case investigation (DCI).
*4 of those 6 cases were due to TAB. 1 sample was positive with H&E but negative by CK19 IHC. DCI is still underway for 1 sample.
#2 of those 10 cases had positive OSNA results very close to the cut-off level. For 4 samples, low CK19 mRNA copy numbers (190 to 480 copies/μl) were found by QRT-PCR and DCI is still in process for 4 samples.

Results: See the table.

After the present DCI correction because of tissue sampling (4 cases), the overall concordance rate was 96.09% (sensitivity = 0.9355, 95% CI: 0.7928–0.9821; specificity = 0.9638, 95% CI: 0.9346–0.9802), which might even be higher in case TAB is detected in the remaining 5 discordant samples.

Conclusion: OSNA is a rapid and useful tool for intra-operative assessment of SLN metastases which expressed CK19 (96.6% of the tumours in this study) and could improve the standardization of this examination.

16 Proffered Paper Oral

Impact of magnetic resonance on breast cancer surgical treatment

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Background: One of the most widely used indications for magnetic resonance imaging (MRI) in breast cancer is to preoperatively evaluate diagnosed tumors for size, extent of disease, multifocality, multicentricity and bilaterality.

The main objective of this study was to evaluate the influence of preoperative MRI on the surgical treatment of breast cancer, by detecting multifocal, multicentric and contralateral lesions not diagnosed with conventional techniques.

A secondary aim was to evaluate the efficacy of MRI in the evaluation of the tumor size.

Patients and Methods: 712 patients underwent surgical intervention in our hospital between January 2005 and January 2007 for breast cancer. The preoperative staging algorithm includes bilateral mammography and ultrasound, with axillary exploration and fine needle aspiration biopsy (FNA). When histological diagnosis of malignancy was done, MRI was performed. If any additional lesions were discovered, a new FNA was performed.

Data were collected prospectively and evaluated retrospectively. Therapeutic intention was registered before and after the result of the MRI. Additional tumor foci newly diagnosed by MRI were checked with the specimen study. Tumor size in the three different image techniques was compared with the pathological size.

Results: 249 patients were included in our study. 20 additional malignant lesions were found in 18 patients (8%), changing the surgical approach in 15 patients (3 required contralateral surgery, 1 required double lumpectomy in the same breast, 11 changed from lumpectomy to mastectomy). These lesions were: 13 infiltrating ductal carcinoma, 4 invasive lobular carcinoma, 1 papillary carcinoma, 1 tubular carcinoma, 1 ductal carcinoma in situ.

But the surgical treatment was also changed due to a larger size of the tumor on the MRI: 16 patients changed from lumpectomy to mastectomy and 1 patient from lumpectomy to quadrantectomy.

Therefore MRI changed the surgical management in 32 patients (13%). After checking the specimens of these patients, the changes resulted to be beneficial in 22 patients (9%), non beneficial in 6 patients (2.4%) and uncertain in 4 patients (1.6%). Spearman's rank correlation coefficient was strongly positive (rs = 0.729) when tumor sizes were compared in MRI and pathology results. The association was strong, but less, when comparing pathology results with mammography (rs = 0.658) and ultrasound results (rs = 0.629).

Conclusions: Preoperative MRI modified the surgical approach in, at least, one out of every nine patients in our series.

MRI was also the best technique for diagnosing the size of the lesion in the preoperative staging of the breast cancer.

Breast MRI has been incorporated into our staging protocol, and should be considered as a necessary technique for breast cancer staging.