

without clinically detected axillary node. Identification of metastatic IM is an independent prognostic factor (1). There remains to establish feasibility and meaning of search and dissection of IM SN, when they are identified by a preoperative lymphoscintigraphy.

Material and method: In a prospective study, axillary and IM SN have been identified by a preoperative lymphoscintigraphy and by using a gamma probe and injection of blue dye (bleu patenté V) during the operation. Dissection of IM nodes was made through the corresponding identified intercostal space.

Results: From May 1999 to January 2001, SN have been searched in 89 patients (age 32-80) with breast carcinomas T1-T2 (<3 cm). Axillary SN have been identified in all. IM SN have been detected in 5/89 patients (5.6%). Three patients had the primary tumour located in the upper inner quadrant, one over both upper quadrants and one over both lower quadrants. Dissection of IM SN has been performed by using the same incision as the primary tumour in 2 patients and with a complementary incision in 3. No metastatic disease was discovered in the IM SN, whereas positive axillary nodes were identified in one of these 5 patients. IM SN dissection carried no morbidity.

Conclusion: Identification of metastatic IM SN would upgrade a primary breast cancer from stage I to IIB, and may help to adapt adjuvant radiochemotherapy.

References

- [1] Ann Surg Oncol 2000, 7: 188-192.

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POSTER

The assessment of cardiovascular injury and early and late lung complications after irradiation for breast cancer

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Radiotherapy plays an important role in the prevention of locoregional recurrences after mastectomy and breast-conserving surgery for breast carcinoma. Therefore, better techniques to reduce treatment-related pulmonary and cardiovascular side effects are warranted. The risk of cardiac and lung toxicity is not well established. This study was designed to assess prospectively the occurrence and location of myocardial perfusion defects in left- in comparison to right-sided breast cancer patients as well as to delineate lung complications following radical radiotherapy. All patients were consented before inclusion in the trial.

Study group consisted of 51 patients aged 32 to 66 years (median 48) with right- and left-sided disease in respectively 27 and 24 cases, treated in our institution between 1997 and 1999. Thirty-five patients were referred for radiotherapy after surgical procedures and 16 patients had locally advanced disease. Twenty-six patients received systemic treatment. Radiotherapy was delivered with the use of Co60 or LA electron irradiation of the thoracic wall in mastectomized patients, or two tangential photon beams in other patients. All patients received elective radiotherapy to the locoregional lymph nodes. Clinical examination, lung scintigraphy and myocardial scintigraphy were performed before treatment, and after 6 and 12 months during the follow-up period. All patients finished the prescribed treatment course with acceptable tolerance. Grade 1-2 fatigue and grade 1-2 dyspnoea occurred in eight patients each. Scintigraphic abnormalities of different degree occurred in all patients at 6 and 12 months following radiotherapy. There were two cases of clinically relevant diffuse changes, and two cases of pulmonary microembolism. No cases of myocardial infarct or cardiac failure were recorded. Ten of the 27 patients with left-sided disease had slight perfusion defects seen on myocardial scintigrams and localized in the apex and anterior wall of the heart. Further details of this study will be presented.

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Prospective follow-up study of breast cancer patients after sentinel lymphadenectomy (SLND)

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Purpose: The axillary lymph node status is the most important prognostic factor in breast cancer. As reported in different studies as well as in our

validation study tumour-negative sentinel nodes (SLN) accurately predict tumour-free axillary lymph nodes. Serial sectioning and immunohistochemistry of SLN increase the incidence of micrometastasis. We analyzed our data after a median follow-up of 19.5 months (1-43)

Methods: Between September 1997 and April 2001 189 patients with breast cancer were prospectively enrolled and underwent SLND with tumour resection. SLN were detected using vital blue dye and 99mTc labeled colloid. Completion axillary lymphadenectomy (ALND) Level I and II was performed, if SLN contained macrometastasis or were not identified. Axillary complications and recurrences were evaluated.

Results: SLN were identified in 180 (95%) of 189 patients. 81 (45%) had tumour-positive SLN, 60 (33%) containing macro- and 21 (12%) micrometastasis. All patients with SLN macrometastasis underwent completion ALND. 38 (63%) patients with ALND also had tumour-positive Non-SLN. There were no postoperative axillary complications nor recurrences after SLND alone. We observed one axillary recurrence (0.6%) after SLND and completion ALND in a locally advanced tumour. 5 (3%) patients suffered from distant metastasis.

Conclusion: The SLN concept helps to avoid two third of ALND in breast cancer patients. There were no local complications after SLND. We did not observe any axillary recurrence after SLND alone after a median follow-up of 19.5 months so far. The significance of SLN micrometastasis is unclear and further investigations are needed.

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POSTER

The impact of radiotherapy on the outcome of immediate post-mastectomy breast reconstruction using implants, with and without myocutaneous flap transfer

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Introduction: The role of post-mastectomy radiotherapy (RT) in improving the rate of local recurrence of breast cancer and overall survival is now well established. Breast reconstruction offers improved cosmesis, body image and quality of life and is increasingly being used. This study aimed to investigate the impact of RT on immediate post-mastectomy breast reconstruction (IPMR) with implants, with and without latissimus dorsi (LD) myocutaneous flap transfer.

Methods: We retrospectively reviewed the notes of 262 women who underwent 312 IPMR performed by two surgeons at the Royal Marsden and St George's Hospital from August 1994 to May 2000. Median follow up was 22 months. The end-point was the need for surgical revision, defined as implant removal, replacement, repositioning, pocket refashioning, capsulotomy or wound debridement.

Results: 161 IPMR were implant only and of these 21 received RT and 140 did not. The need for surgical revision was 38% and 28% respectively. A time dependant, multivariate analysis revealed that RT is significantly associated with increased revision rates for implant only IPMR (RR 2.06, 95% CI 1.12 - 3.78).

151 IPMR involved LD flap repair and of these 79 received RT and 72 did not. The need for surgical revision was 14% with or without RT, no significant increase with the addition of RT (RR 1.64, 95%CI 0.69 - 3.9).

Of the 100 IPMR receiving RT, 43 had surgery first and 57 had RT prior to surgery, with no difference in revision rates, p=0.955. LD Flap IPMR were associated with a significantly reduced revision rate compared to implant only IPMR regardless of whether RT was given (p=0.003).

Conclusion: Our experience confirms that RT impacts adversely on the outcome of implant-only IPMR. In patients with LD flap IPMR we have found no significant increase in the need for surgical revision. It is therefore our recommendation that patients likely to require adjuvant RT post mastectomy should be offered LD Flap reconstruction rather than implant only.

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POSTER

Conservative treatment of breast cancer: 20-year results boosting the tumor bed by brachytherapy

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Background: Boost to the tumor bed has been demonstrated to increase local control in stage I-II breast cancer treated conservatively. We present