

Conclusions: Compared with fIMRT, IMRT plans resulted in more PTV coverage, conformity index and uniform dose distribution, with comparable sparing of lung, heart and contralateral breast.

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POSTER

Bilateral Breast Cancer: Review of Literature With Focus on the Role of Radiotherapy After Breast Conserving Surgery

A. Salem¹. ¹King Hussein Cancer Center, Radiation Oncology, Amman, Jordan

Objective: Despite the recent increase in interest in bilateral breast cancer (BBC) research, this topic continues to raise several striking questions. At one level; it remains unknown whether BBC represents increased susceptibility to cancer or simply a second occurrence of a breast primary. In like manner, there are scant information on the appropriate management alternatives and technical aspects of radiotherapy delivery in these patients. Herein, we present a detailed report addressing bilateral breast cancer with focus on the role and technique of radiotherapy after breast conserving surgery.

Methods: Review of relevant literature addressing bilateral breast cancer with special focus to the role and technique of radiotherapy after breast conserving surgery. We performed an exhaustive MIDLINE database search using the following keywords: "bilateral", "breast cancer", "breast conservation surgery" and "radiotherapy".

Results: The time interval used to differentiate synchronous from metachronous cancer varies widely, however, 6 months is most frequently used. The estimated incidence of metachronous breast cancer ranges from 0.1 to 1%. Risk factors for BBC include strong family history, lobular histology and sedentary lifestyle. A diagnosis of BBC carries a twofold increase in disease-specific mortality over patients with unilateral breast cancer. Breast conserving surgery followed by breast irradiation is an established treatment for patients with early-stage BBC. The rate of locoregional recurrence does not appear to be higher than in patients with unilateral breast cancer. Radiotherapy delivery can prove difficult. On one hand, overlapping breast tangent fields should be avoided for fear of heightened skin reaction. On the other hand, maintenance of adequate radiation field coverage is of paramount importance in an attempt to decrease the risk of locoregional recurrence.

Conclusions: This literature review represents a detailed report addressing bilateral breast cancer with special emphasis on the role of breast conserving surgery and the consequent need for bilateral breast irradiation. Numerous difficulties are encountered in radiotherapy delivery in these cases. As consequence, these patients are probably more appropriately managed at a tertiary care facility.

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POSTER

Thoracoscopic Internal Mammary Lymph Node Dissection: Diagnostic and Therapeutic Value

H. Soliman¹, W. Gareer¹, H. Elsebaie¹, H. Gareer¹, H. Ahmed¹, M. Wafa¹. ¹National Cancer Institute, Surgical Oncology, Cairo, Egypt

Background: The role of IMN removal in breast cancer is still controversial. There is evidence that removal of IMN does not improve the survival of patients treated for breast carcinoma. The prognostic value of IMN status is high and a biopsy on a selected lymph node should be considered for staging.

Material and method 50 patients with operable breast cancer located in the central or medial quadrants or patients who had positive axillary lymph nodes were collected.

Patients underwent modified radical mastectomy or breast conservative surgery initially, then the skin incision of the MRM or that of ipsilateral axillary dissection of BCS were used to introduce 10 mm thoracopore into the pleural cavity at the midaxillary line in the 4th intercostals space. Artificial pneumothorax was achieved by allowing the air into the pleural space. 2 more 5 mm thoracopores were placed in the 3rd and 5th space anterior to midaxillary line. After parietal pleurotomy along the internal mammary vessels, disconnection of the internal mammary vessels just below the subclavian vein and at the 5th space was done. Then the internal mammary vessels, the surrounding fat, and associated IMNs were removed en-block.

Results: The mean age of patients was 44 years. 40 patients had central tumour, 10 patients had lateral tumour. 35 had clinically involved axillary nodes.

44 patients underwent MRM and 6 patients underwent BCS. No intra-operative complications occurred. Atelectasis was the only postoperative complication and was treated conservatively. The average chest drainage period was 1.2 day.

The frequency of IMN metastasis was significantly correlated with; the patient's age ($P = 0.03$), the site of the 1st tumour ($P = 0.03$), the size of the 1st tumour ($P = 0.05$), and the number of positive axillary LNs ($P = 0.001$).

As a result of histopathological analysis, all 18 IMN positive patients showed N migration. Stage migration occurred in 7 patients.

The median follow up period was 22 months. For the 18 patients with positive IMN, 5 developed metastasis and/or loco-regional recurrence, 2 died of breast cancer, while one patient died due to chemotherapy induce heart failure. For the 35 patients with negative IMN, 5 developed metastasis and/or loco-regional recurrence, 3 died of breast cancer. No patient had pleural dissemination or port-site metastasis.

Conclusion: Thoracoscopic IMN lymphadenectomy is a safe procedure that can be done with insignificant risk, without increasing morbidity, or any cosmetic compromise. Thoracoscopic IMN lymphadenectomy had inhibited those who had disregarded the status of the IMNs, by offering a clear diagnostic tool for metastasis.

On the other hand, it had satisfied those who supported IMNs dissection by offering a clear therapeutic tool for dealing with these metastases as well.

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POSTER

Is SLN Biopsy Alone a Therapeutic Tool in Breast Cancer?

R.F.D. van la Parra¹, S.J. Mol², W.K. Roos¹, A.H. Mulder³, M.F. Ernst⁴, K. Bosscha⁴. ¹Gelderse Vallei Hospital, Surgery, Ede, The Netherlands; ²Jeroen Bosch Hospital, Pathology, 's Hertogenbosch, The Netherlands; ³Rijnstate Hospital, Pathology, Arnhem, The Netherlands; ⁴Jeroen Bosch Hospital, Surgery, 's Hertogenbosch, The Netherlands

Background: In international and national guidelines, completion axillary lymph node dissection (ALND) still is the standard of care after a positive sentinel lymph node in breast cancer. However, developments in pathologic staging and the proven benefit of adjuvant therapy undermines the need for ALND in all patients. The purpose of this retrospective study was to evaluate disease free survival and recurrence in patients undergoing SLN biopsy alone versus SLN with ALND.

Materials and Methods: Patients with a positive SLN were identified from 2 hospital breast cancer databases. Locoregional recurrences and disease free survival were examined.

Results: We identified 488 patients with a positive sentinel node; 62 (12.7%) underwent SLN biopsy alone and 426 (87.1%) underwent SLN biopsy with ALND. The median follow up was 34 months. Patients were more likely to undergo SLN biopsy alone if they had a smaller metastasis size ($P < 0.05$).

In patients with isolated tumour cells and micrometastases there was no significant difference in disease free survival between the patients that underwent SLN biopsy alone compared to those with SLN and ALND. However, survival in patients with macrometastases was significantly worse in the group undergoing SLN biopsy alone compared to those undergoing SLN and ALND.

Conclusions: Axillary lymph node dissection should not be omitted in patients with macrometastatic disease in the sentinel node. Omission of ALND in patients with micrometastases or isolated tumour cells in the sentinel node seems to be a safe option and should therefore be discussed with patients.

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POSTER

Axillary and Supraclavicular Recurrences Are Rare After Axillary Lymph Node Dissection in Breast Cancer

E. Siponen¹, M. Leidenius², L. Vaalavirta³, H. Joensuu³. ¹HUCH Jorvi Hospital, Surgery, Espoo, Finland; ²HUCH, Breast Surgery Unit, Helsinki, Finland; ³HUCH, Department of Oncology, Helsinki, Finland

Background: Our aim was to evaluate the incidence of and risk factors for axillary recurrence (AR) and supraclavicular recurrence (SR) in breast cancer patients with axillary lymph node dissection.

Material and Methods: The study was based on 1180 patients with unilateral invasive breast cancer operated between January 2000 and December 2003. The median duration of follow-up was 84 months.

Results: The 7-year AR incidence was 0.7% and SR incidence was 1.3%. No risk factors for AR were identified. Patients with histological grade III tumours had a higher SR incidence (2.2%), than patients with grade II tumours (1.6%) and patients with grade I tumours (0%), $p = 0.031$. Patients with estrogen receptor positive tumours had a lower SR rate (0.9%), when compared with the 3.4% in patients with estrogen receptor negative tumours, $p = 0.009$. Also patients with progesterone receptor negative tumours had more often SRs (2.5%), than patients with progesterone receptor positive tumours (0.6%), $p = 0.003$. SR, but not AR, was an independent risk factor for poor breast cancer specific survival, HR 10.116, $p < 0.0001$.

Among N1 patients, the extent of radiotherapy (RT) had no influence on regional recurrences. Among N2 patients, the 7-year regional recurrence