There were no significant differences (x^2 test) between the responders and non-responders in the two groups, however local toxicity was significantly increased in the patients who received MMM.

We conclude that regional chemotherapy using MM is as effective as MMM in the treatment of locally advanced breast cancer and avoids the severe local skin reactions associated with MMC.

P930. Supportive care with disodic pamidronate in the treatment of breast cancer metastatic bone lesions

P Candido, MT Cattaneo, N Tosca, S Ferrario, A Gambaro, B Orlandini, MA Nosenzc, E Piazza
Oncology Department, L. Sacco Hospital, Milan, Italy

Disodic Pamidronate (DP) is an effective drug commonly utilized in the treatment of painful osteolytic bone metastases and in paraneoplastic hypercalcaemia, because of its mechanism of action of inhibiting osteoclast osseous resorption. Since January 1994 to December 1996, we have treated 47 pts with symptomatic bone lesions from metastatic breast cancer with Disodic Pamidronate. The schedule was: 60 mg.tot. in physiological solution 500 cc. in a three hour intravenous infusion, every 21 days for 6–12 cycles. Radiotherapy was given to 10/47 pts (21.2%). Objective response was evaluated by adequate control of pain and disease stabilization documented with 99Tcn-osteoscan.

Partial response was recorded in 27/47 pts (PR = 57.4%), apparently unrelated to tumour histotype or previous radiotherapy. Six pts (12.7%) had no change. Progressive Disease was documented in 14/47 pts (29.7%). Toxicities related to DP utilization (I°-II° WHO) occurred in 9/47 pts (19.1%): in 4 pts these were gastrointestinal symptoms, in 3 pts hyperpyrexia and in 2 pts neurological symptoms (paraesthesiae).

We conclude DP has an effective role in bone metastases from breast cancer and it may also be useful in treating other osteolyte bone metastases and in paraneoplastic hypercalcaemia arising from lung, colorectal, bladder and prostatic cancer.

P.932. Cystic tumors of the breast: a diagnostic and therapeutical problem

G Moretto, GP Pollini, E Iellici, R Sandrini, F Pellini, A Molino, F Bonetti, C Prezzi
Department of Surgical Sciences, Pathology and Radiology, Ospedale Policlinico B.go Roma, Verona, Italy

The finding of cystic breast masses is a relatively frequent event (up to 7–10% of women develop a clinical cyst at sometime during their life), while the finding of an intracystic lesion is rare. If while using mammography and ultrasound we detect intracystic lesions, these findings force the operator to use other tools for his/her investigations as mammography does not allow one to distinguish between an intracystic lesion and a cyst by itself, because of the poor differential absorpion of the tissue forming the breast. Even though sonography is able to distinguish easily the two components (the liquid trans-sonic one, and the solid hyperechoic one) the US characteristics for the differential diagnosis between benign and malignant lesions (edges' feature, structural homogeneity), at present time in the case of a complex cystic lesion sonography does not have high a specificity, so we must use cytology and/or histology. Breast cysts are usually of little significance, there are however four situations in which a clinically cystic lesion can be associated with malignancy: (1) invasion of a carcinoma into an area of cystic disease; (2) cystic degeneration of a high grade malignancy; (3) carcinoma arising in a cyst wall; (4) intracystic papillary carcinoma. It is the authors' opinion that every cyst which bears ambiguous elements such as irregular thickenings of their wall, very thick fluid or fibrotic bridges, should be regarded with suspicion and studied not just with mammography or ultrasound but with cystic fluid aspiration; the characteristics of this latter can be by itself an useful index of malignancy. Cytology should be carried out everytime bloodstained fluid is obtained by cystic aspiration, because there is a significant chance that the lesion could be a neoplasm. The presence of a residual mass after aspiration of the cystic fluid in an elderly patient is strongly indicative of malignancy and thus it must be investigated with mammography and ultrasound. Surgical excision should be performed in every case with positive or either suspect imaging or cytology. The type of surgery performed depends from the type of cystic tumor and its extension to the surrounding tissue.

P.933. Response to primary chemotherapy in locally advanced breast CA: comparative accuracy of MR imaging relative to MX and US

ML Grandinetti, FR Ferranti, E Saracca, M Crecco, C Botti, P Vici, M Mattioli.
Istituto Regina Elena, Roma, Italy

The aim was to evaluate the comparative accuracy of dynamic Magnetic Resonance (MR) imaging relative to mammography (MX) and ultrasound (US) to determine tumour response and extension of residual disease after neoadjuvant chemotherapy.

Thirty patients who were clinically staged to have T2> 4 cm, T3–4 and/or N0-1 breast cancer were evaluated prior to and after neoadjuvant chemotherapy by MR, physical examination, US and MX.

Assesment of response determined by the four methods was compared. Independent interpretations without knowledge of clinical response were made by three radiologists. Histological results were analyzed and compared in 28 patients (two patients had breast conservation).

Overall, 95% of patients achieved a clinical response (PR, CR). In 60% there was general agreement between clinical and radiological results. Histological and clinical results agreed with MR results in 75% MR was superior to the other three modalities. MR predicted pathological extent of residual cancer after chemotherapy in 25 of 26 patients (97%) and in one patient identified a controlateral occult cancer.

MR imaging was the more accurate of the three imaging modalities in assessing response to neoadjuvant chemotherapy.

P934. Fraction of normal remaining life: a new method for expressing survival in cancer

JS Vaidya, I Mittra
Department of Surgery, University College London, London, UK and Department of Surgery, Tata Memorial Hospital, Bombay, India

The plotting of conventional survival curves for cancer, using the interval between diagnosis and date of last follow up or death to denote survival time, ignores the patient's expected life span had the patient been healthy. In human terms, the impact of a projected 10 year survival of a woman diagnosed to have breast cancer (for example) would be different for a 30 year old patient as opposed to a 70 year old. We believe that survival is better expressed as a fraction of normal remaining life span expected at the time of diagnosis.

To illustrate this concept, we used a database of 1134 operable breast cancer patients from Bombay who had their primary surgery performed at Tata Memorial Hospital between 1974 and 1988. Each patient's age at diagnosis is subtracted from the average life expectancy for that age to obtain what we call her normal remaining life (NRL). At the time of survival analysis, the percentage of NRL that has actually been lived by the patient was calculated and used in place of survival time to plot actuarial survival curves which we call real life expectancy curves. The survival curves were plotted in two different ways: by the conventional method and the novel way which we call real life expectancy method. Both curves were plotted using the actuarial method. For example, in India, a healthy 40 year old woman has a normal life expectancy of 72 years and NRL of 32 years (72 minus 40). If at 40 she were diagnosed to have breast cancer, and she lived for 10 year, her survival is expressed as 31% of her NRL (10/32 ×100). On the other hand, a similar patient of breast cancer aged 60 at diagnosis would have a normal life expectancy of 75 years and NRL of 15 years. If she lives for 10 years after diagnosis, her survival is expressed as 67% (10/15 × 100) of her NRL. To plot the Real Life Expectancy curves, these percentage figures were used instead of actual number of years. The mathematical procedure and statistical considerations are exactly the same as that used for plotting conventional actuarial survival curves. Using the conventional method, one would estimate that a woman with uninvolved nodes has a 82% chance of living for 10 years while using the new method she would have a 81% chance of living 1/2 of her NRL. Since the normal life expectancy of a 40 year old Indian woman is 72 years and that of a 60 year old is 75 years, this would work out to a 81% chance of living for 16 years for a 40 year old woman and 7.5 years for a 60 year old. We could even say that a node –ve woman has a 68% chance of living her full NRL which is equivalent of a cure. The importance of the facility to express survival in terms of cure, especially for a disease such as cancer, is profound. We believe that by individualising survival estimates according to age and expressing survival in terms of cure rates, the new method that we have proposed makes survival estimates more meaningful relevant and human.

P935. Tumour bed biopsy as a guide to optimal conservation surgery after preoperative chemotherapy for large-sized resectable breast carcinoma

C Botti, A Psaila, F Cavaliere, F Sciarretta, M Cosimelli, F Di Filippo, R Cavaliere.
Istituto Tumori Regina Elena Roma, Roma, Italy

The introduction of preoperative chemotherapy in the multimodal treatment of resectable breast carcinoma has resulted in an increase in the number of patients undergoing breast conservation. However, this may be associated with an elevated risk of local recurrence, due to the presence of clinically occult residual disease. This study prospectively examined tumour bed biopsies (TBB) in 40 patients with large unilateral T2 and T3 breast cancer in whom following completion of primary chemotherapy tumour shrinkage was evident and quadrantectomy plus axillary dissection (QU.AD.) was performed. After removal of the main specimen, biopsies were taken from the superior, inferior, medial and lateral macroscopically uninvolved aspects of the cavity and frozen for the histological evaluation. Specimens were considered positive if microscopic foci of either intraductal or invasive carcinoma were present. Fifteen patients had positive TBB. No false positive as well as no false negative pathologic results were observed. Patients with positive TBB were signigicantly more likely to have initial tumour mass greater than 5 cm and pathological tumour diameter greater than 2 cm. The presence of intraductal and lobular components were also predictive of TBB.

Results are summarized in the Table.

	TBB negative	TBB positive	P
Initial tumor size (cm)			
3.5 to 5.0.	21	5	0.003
5.1 to 7.0	4	7	
> 7.0	0	3	
p-T staging			
p-T0	8	0	0.0002
p-T1	15	5	
p- T2	2	10	
Histology			
Invasive ductal	19	5	0.004
Invasive lobular	1	5	
Mixed type	5	2	
Invasive ductal with intraductal component	0	3	

At a median follow-up of 40 months no local recurrence as first event was observed in the QU.AD. group.

P936. Technetium-99 methoxyisobutylisonitrile (MIBI) breast scintigraphy in the assessment of response to neoadjuvant chemotherapy (NEO-CT)

C Botti, A Tofani, RM Mottolese, R Sciuto, A Semprebene, ML Grandinetti, P Vici, F Cavaliere, F Sciarretta, M Benevolo, CL Maini, R Cavaliere
Istituto Tumori Regina Elena, Rome, Italy

The response to induction chemotherapy is an important prognostic factor in patients with locally advanced breast cancer (LABC). Clinical and mammographic assessment are not adequate determinants of response because they are able to differentiate residual tumor masses representing fibrosis from those representing residual tumor. In theory, the chemotherapy-induced changes are better assessed monitoring changes of the uptake of radiotracers that selectively bind in the cytosol of tumor living cells. Tc-99m MIBI imaging was performed before and after Neo-CT (5-FU, Epirubicin, Cyclophosphamide) in 25 patients with LABC (T2 greater than 4 cm, T3-4, N0-1, M0). Tumor response was assessed by four methods: clinical. mammographic, scintigraphic and histological. Clinical and mammographic rsponse were classified according the WHO criteria. Tc-99m MIBI response was graded as no change (NC) if no reduction of the grade of the uptake was dectable after Neo-CT, partial (PR) if imaging revealed reduction of the uptake, complete (CR) if no abnormal focus of activity at the tumor site could be detected. Histological response was classified as grade I (less than 50% of the cancer lesion replaced by fibrosis), grade II (more than 50% of the cancer lesion replaced by fibrosis), grade III (cancer lesion entirely replaced with no residual tumor or only few isolated neoplastic cells). Overall, 87% of patients achieved a scintigraphic response (PR, CR), while clinical and mammographic responses were observed in 73% and 20% of patients, respectively. In 87% of cases there was general agreement between scintigraphic and clinical response, although differing in degree in 8 cases. General agreement between secintigraphic and mammographic response was 33%. MIBI scintigraphy showed the highest sensitivity in predicting a grade III pathological response. All cases with persistent MIBI accumulation (NC, PR) after Neo-CT were classified as grade I at histological examination. Of the 11 scintigraphic CR cases observed, 3 were histologically classified as grade I, 4 as grade II and 4 as grade III. Multifocality and tumor size ≤ 1.0 cm contributed to disagreement between scintigraphic CR and pathological grade I response. Tc-99m MIBI uptake did not correlate with the MDR1 gene protein product (P-gp) expression, proliferating cell nuclear antigen (PCNA), HER-