Cross Tables of 2 × 2 clin/bio responses

	CA15.3			TPA		
	Cbio	Pbio	Total	Cbio	Pbio	Total
Cclin	63	1	64	61	1	62
Pclin	1	14	15		13	13
Total	64	15	79	61	14	75

Mucin (CA 15.3): Chi^2 Pearson = 66.53, P = 0.000 Concordance+ = 77/79 matches (97.5%) CK 18–19 (TPA): Chi^2 Pearson = 68.52, P = 0.000 Concordance+ = 74/75 matches (98.7%)
Conclusions: In CTM expressing tumours and taking into account simple application kinetics criteria, the analysis of CTM before CT infusion and its concentration / time curves, behaves as an excellent and dynamic surrogate to anatomical criteria in the evaluation of the disease control during CT in MBC.

416 POSTER

Do very young breast cancer patients have worse outcomes in Korea?

J.K. Kim, B.S. Kwak, S.H. Ahn, H.J. Kim, J.S. Lee, S.J. Hong, B.H. Son. *University of Ulsan, College of Medicine, Asan Med, surgery, Seoul, Korea*

Background: The Korean women with breast cancer is younger than white women. This study was designed to compare the clinicopathologic differences and prognosis in very young patients and less young patients among premenopausal Korean women with breast cancer.
Methods: Of breast cancer patients treated at the Asan Medical Center in Seoul, Korea, from 1989 to 2002, 381 patients (9.6% of all breast cancer patients) were younger than 35 years (the "very young" group) and 2320 ranged in age from 35 to 50 years (the "less young" group). In this study, the clinicopathologic factors and survival rates of these 2 groups were compared retrospectively.
Results: The 5-year survival rate was 81.0% in the very young group and 89.1% in the less young group($p < 0.001$). However, on a stage-by-stage basis, No significant difference in survival was seen between the groups. The very young group with lymph node metastasis demonstrated a poorer 5-year survival rate (69.9% vs. 82.7%, $p = 0.0063$) and disease-free survival rate (58.1% vs. 74.1%, $p < 0.0001$) than did their older counterparts. The very young group had more advanced-stage disease ($p < 0.001$), higher T-stage disease ($p = 0.001$) and more positive lymph node ($p = 0.024$) than did their older counterparts and higher percentages of estrogen-receptor negative tumors (48.2% vs. 42.1%, $p = 0.047$), progesterone-receptor negative tumors (53.5% vs. 44.1%, $p = 0.002$) and grade-3 histology (52.1% vs. 43.5%, $p = 0.011$). In patients with an endocrine-responsive tumor, those in the very young experienced a significantly worse outcome than did those in the less young group(86.3% vs. 93.9%, $p = 0.0108$ in ER(+); 85.9% vs. 94.9%, $p = 0.0094$ in PgR(+)).
Conclusions: The Korean women younger than 35 years with breast cancer have a worse prognosis, a higher rate of recurrence, a later stage at diagnosis, and more aggressive biologic factors than older premenopausal patients. An age of younger than 35 years was an independent predictor for recurrence. Our results show that physicians must be aware of the consequences of breast cancer in younger patients and must recognize that (especially in node-positive patients) a therapeutic strategy more aggressive that that used in older patients may be required to optimize outcome.

417 POSTER

Maintenance hormone therapy with letrozole after first-line chemotherapy in postmenopausal patients with hormone receptor-positive metastatic breast cancer

M. Ruiz Borrego[1], J. De la Haba[2], S. Morales[3], M. Ramos[4], A. Velasco[5], M. Mendez[6], F. Carabantes[7], A. Barnadas[8], M. Garcia[9], J.A. Moreno[1]. *[1]Virgen del Rocio Hospital, Dept. of Oncology, Sevilla, Spain; [2]Reina Sofia Hospital, Dept. of Oncology, Cordoba, Spain; [3]Arnau de Vilanova Hospital, Dept. of Oncology, Lleida, Spain; [4]Oncological Center of Galicia, Dept. of Oncology, La Coruña, Spain; [5]La Princesa Hospital, Dept. of Oncology, Madrid, Spain; [6]Mostoles Hospital, Dept. of Oncology, Mostoles, Spain; [7]Carlos Haya Hospital, Dept. of Oncology, Malaga, Spain; [8]Germans Trias i Pujol Universitary Hospital, Dept. of Oncology, Badalona, Spain; [9]Ciudad Real Hospital, Dept. of Oncology, Ciudad Real, Spain*

Background: Metastatic breast cancer treatment aims to obtain a good control of the disease by optimizing the available therapeutic approaches. Maintenance chemotherapy beyond a response is often associated with toxic side effects and many patients prefer to discontinue such treatment. In this study we assessed the efficacy for letrozole (Femara®) as a maintenance hormonal therapy after chemotherapy in post-menopausal metastatic breast cancer hormone receptor-positive patients.
Material and methods: Multicentre prospective trial. Women who received standard first-line chemotherapy for at least 3 months and had a complete response (CR), partial response (PR) or stable disease (SD), were then treated with letrozole p.o. 2.5 mg/day until progression disease or unacceptable toxicity. The main endpoint of the study was time to progression (TTP). Secondary endpoints were safety and response rate conversion. The data are presented with a median range of follow-up of 17 months.
Results: From June 2001 to August 2003 142 patients were included in the study. Median age: 60 years (36–81). Prior treatments: neo/adjuvant chemotherapy: 100%, neo/adjuvant hormone therapy: 46%, surgery: 80% and radiotherapy: 41%. 103 patients were assessed for efficacy and 124 for toxicity. Response obtained after chemotherapy: 27% CR, 28% PR and 45% presented SD. The median TTP was 19 months from starting with letrozole. A trend to a longer TTP in patients with CR and better performance status (ECOG) has been observed. A conversion response rate from SD to PR of 4.3% and from PR to CR of 12.5% was obtained from switching from chemotherapy to letrozole. The median overall survival (OS) was 37 months. Letrozole was well tolerated. The most frequent side effects associated with letrozole were: arthralgia, bone pain and headache.
Conclusions: Maintenance therapy with letrozole after chemotherapy was associated to a prolonged TTP and overall survival and improved the overall response. These results support the feasibility of switching patients to letrozole after achieving disease control with chemotherapy in postmenopausal women with hormone receptor positive advanced breast cancer.

418 POSTER

Cost-effectiveness of zoledronic acid vs. other bisphosphonate agents for the prevention of bone complications in breast cancer: an application to Canada

K. El Ouagari[1], M. Botteman[2], M. Aapro[3], J. Hay[4], J. Stephens[2], J.P. Brandman[5]. *[1]Novartis Pharma, Health Policy & Market Access, Dorval, Canada; [2]Pharmerit North America, Bethesda, USA; [3]Clinique De Genolier, Switzerland; [4]USC School Of Pharmacy, Los Angeles, USA; [5]Novartis Pharma, Marketing-Health Economics, East Hanover, USA*

Background: Bisphosphonate therapies have been approved and recommended for the prevention of bone complications in patients with breast cancer. However, these agents differ in terms of efficacy, administration time, and costs. An economic analysis was conducted to assess the relative cost effectiveness of various bisphosphonates for the prevention of bone complications in Canadian breast cancer patients with metastatic bone.
Methods: A Markov model was developed to estimate and compare the costs and quality adjusted life year (QALY) of no therapy (PL), IV pamidronate (PA), IV ibandronate (IIBN), oral ibandronate (OIBN), oral clodronate (CLO) or IV zoledronic Acid (ZA). The model adopts a third-party payer perspective and estimates the direct medical costs and QALY over the remaining lifetime of hypothetical cohorts of patients with breast cancer and bone metastases. In this analysis skeletal morbidity rates (SMR) was considered as drivers of cost effectiveness. The model included assumptions about costs of drug, cost of SRE, utility values for time with and without SREs and relief from bone pain, mortality, and compliance with therapy. Canadian costs and treatment patterns were used to populate the model.
Results: Over a patient lifetime, the discounted cumulative number of SRE was lower for ZA (3.44 per patient) compared to all other options; PA (4.06), CLO (4.56), IIBN (4.59), OIBN (4.72), and PL (5.62). Treatment with ZA resulted in a cost saving of $7,518 per patient vs. IIBN, $5,134 vs. OIBN, $2,589 vs. PL, $680 vs. PA, and $79 vs. CLO. Discounted QALY per patient was higher with ZA (0.817), followed by PA (0.810), IIBN (0.802), CLO (0.790), OIBN (0.788), and PL (0.765). Therefore, ZA is the dominant option being less expensive and more effective than all other agents.
Conclusion: Zoledronic acid appears to be the most cost-effective bisphosphonate and should be considered as the standard of care in Canadian breast cancer patients with bone metastases.

419 POSTER

The place of PET-18FDG in the diagnosis of breast cancer (BC) recurrence in the patients with isolated elevation of CA15–3 – single center experience

R. Jarcau, H. Larbre, A. Cuif, C. Pourny, R. Amir, J.C. Liehn. *Institute Of Oncology Jean Godinot, Reims Cedex, France*

Introduction: It is proved the performance of FDG-PET over conventional imaging in the diagnosis of the BC recurrence. There is no standard attitude

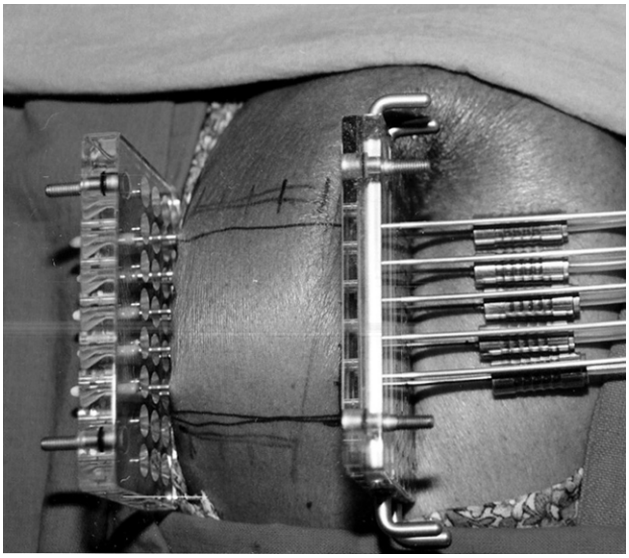
for the utilization of FDG-PET in the follow-up of the BC patients with complete remission.
Aim: our retrospective study assessed the value of FDG-PET for the diagnosis of breast cancer recurrence in asymptomatic patients with elevated CA 15-3 and negative conventional imaging.
Material and method: Between October 2003 and February 2005, 31 women followed in our institution for BC with CA 15-3 levels above cut-off value of 30 U/ml were explored for suspected recurrence. Median age was 45 years (31–67). Histological characteristics of the initial tumor was: infiltrating ductal carcinoma in 24 cases and infiltrating lobular carcinoma in 7 cases. All the patients were in complete remission of their BC. Conventional imaging included chest radiography, liver ultrasonography, breast ultrasonography, mammography, bone scintigraphy and in some cases computer tomography and/or magnetic resonance imaging.
FDG scintigraphy was performed with a PET-CT Philips Gemini camera one hour after injection of 5 MBq/kg of [18F] FDG.
Results: Among 31 patients, the diagnosis of recurrent BC was established with conventional imaging in 21 patients: bone metastases (9 pts) detected by bone scintigraphy, liver metastases (5 pts) detected by hepatic ultrasonography, local relapse (1 pt) detected by mammography and multifocal metastases (6 pts).
FDG-scintigraphy was performed in the others 10 patients and it was positive in all cases:
In 3 patients with positive conventional imaging (bone in 2 pts and liver in 1 pt) new metastasis sites was found (lung, liver and hypodermic)
In 7 patients with negative conventional imaging, FDG found: bone metastasis (2 pts), liver metastasis and axillary nodes (1 pt), lung metastasis (1 pt), peritoneal carcinosis (1 pt), mediastinal nodes (1 pt) and multifocal metastasis (1 pt).
Conclusion: These results confirm that FDG-PET is useful for the detection of recurrent BC in patients with elevated tumor marker and negative conventional imaging.
The survival impact of early diagnostic of metastasic disease remain unclear and needs prospective randomized trials for evaluation.
Leaving from these data, a prospective study was started in our institution.

420 POSTER

Neoadjuvant chemotherapy followed by external beam radiotherapy and high dose rate brachytherapy for local disease control in locally advanced and metastatic breast cancer

S.K. Bishnoi, H.S. Kumar, V. Kumar, V.K. Aggarwal, N. Sharma, A. Kalwar, D.P. Jain, M.R. Bardia, D.P. Punia. *Acharya Tulsi Regional Cancer Treatment and Research, Oncology, Bikaner, India*

Background: Radiation plays critical role in the multidisciplinary treatment of patients with advanced breast cancer. Radiation in locally advanced breast cancer is generally given either in breast conserving treatments for women who have achieved a favorable response to neoadjuvant chemotherapy or after mastectomy and adjuvant chemotherapy. We investigate efficacy and safety of radiation, external beam radiotherapy and high dose rate brachytherapy, without surgery following neoadjuvant chemotherapy, in local disease control, cosmesis and survival in locally advanced and metastatic breast cancer.
Material and method: The present study conducted at Acharya Tulsi Regional Cancer Treatment & Research Institute, Bikaner (Rajasthan) INDIA from October 1999 to December 2004 In this study we included 100 cases of female breast cancer who presented in advanced stage either locally or metastatic. All patients received neoadjuvant chemotherapy followed by external beam radiotherapy and then interstitial HDR application to achieve local disease control. Chemotherapy was given in the combination of 5 FU, Adriamycin and cyclophosphamide for 6 cycles at 21 day interval followed by External Beam Radiation Therapy (EBRT) 4400–4600 cGy/ 22–23 Fraction/5 days a week. This was followed by a gap of 20 days and then multi planner interstitial HDR was applied to give a dose of 300 cGy twice a day for 5 days. Linear Quadratic Model was used to arrive at biologically equivalent dose values (BED Value) for EBRT+HDR. The BED for EBRT after a gap of 20 days is 36 Gy while BED for HDR is 30 Gy. Thus total dose given to primary tumor is 75 Gy.
Results: The total control of primary tumor and axillary lymph nodes was observed in12% and 17% respectively after 6 cycles of chemotherapy, 55% and 66% at end of EBRT and 72% cases after HDR application at primary site. This control was maintained in 63% at primary site and 60% in the axilla by end of 2 years.
Conclusion: Achieving local control improves the quality of life of patients, they are physically and psychologically more comfortable. No significant fibrosis was seen in breast as locally high dose given to tumor area only. This protocol is cost effective, can be given on outdoor basis, and avoids surgery therefore can easily be applied in elderly and medically unfit patients.



421 POSTER

A Phase I/II study of capecitabine (X) combined with oral vinorelbine (N) as first- or second-line chemotherapy in patients (pts) with locally advanced or metastatic breast cancer (MBC)

C. Delcambre[1], C. Veyret[2], C. Levy[1], O. Switsers[1], D. Allouache[1], N. Raban[3], J.M. Grellard[1], A. Leconte[1], T. Delozier[1]. *[1]Centre François Baclesse, Caen, France; [2]Centre Henri Becquerel, Rouen, France; [3]CHU, Poitiers, France*

Background: The oral fluoropyrimidine X is highly effective and well tolerated in pts with MBC. Adding X to docetaxel improves survival, time to disease progression and response compared with docetaxel alone. When administered intravenously (i.v.) N is also an effective agent in MBC. The combination of X and i.v. N has been shown to be effective in Phase I/II studies with response rates of 48–61% and an good safety profile. Few overlapping toxicities between X and oral N make this an attractive new combination.
Materials and methods: To evaluate this all-oral combination, we conducted a multicentre Phase I/II study of X plus oral N in pts with MBC to determine the maximum tolerated doses (MTD), recommended doses, safety profile and efficacy. Eligibility criteria were stage III/IV BC, age >18 years, ECOG PS <2, $\geqslant$12 months since the end of adjuvant or neoadjuvant chemotherapy, HER2 negative or unknown and adequate major organ function.
Results: We enrolled 61 pts: 75% received first-line XN and 25% received XN as second-line therapy. Baseline characteristics were: median age 57.2 years (range 39–81); stage III/IV disease (0/100%); sites of metastases: liver (n = 31), lung (n = 24), lymph nodes (n = 24), bone (n = 23), breast (n = 8), skin (n = 4), pleural effusion (n = 7). 15 pts had >2 metastatic sites. DLTs determining the MTD were Febrile Neutropenia and grade 3 Mucitis. The recommended doses are: X = 1250 mg/m^2 twice daily and N = 60 mg/m^2. 33 pts received the treatment at the recommended dose. Efficacy findings were: 1 complete response (CR, 2%), 20 partial responses (PR, 43%), 16 pts with stable disease (ST, 35%), 9 pts with progressive disease (PD, 20%) and 15 not known. Most common adverse events were grade 3/4 neutropenia (11%) and grade 2/3 hand–foot syndrome (8%). Mature results will be presented during the meeting.
Conclusion: the all-oral combination of X and N is feasible and well tolerated. The recommended doses from this study are: X = 1250 mg/m^2 bid d1-d14 and N = 60 mg/m^2 d1 and d8 q3w. This combination appears highly active and enrolment continues to confirm the response rate and to evaluate disease-free survival.