

rates were 34.3% in patients without RT, 0% in patients with local RT and 1.2% in patients with locoregional RT, $p < 0.0001$.

Conclusions: AR and SR are currently rare events and often detected concomitantly with distant metastases. SRs are associated with aggressive disease and poor survival. Regional RT significantly reduced regional recurrences in N2 patients but not in N1 patients.

5042

POSTER

Clinical Implications of Palliative Surgery in Patients With Suspicious Versus Proven Metastatic Breast Cancer Under Current Staging System

Y. Lee¹, D.Y. Oh¹, S.W. Han¹, S.A. Im¹, T.Y. Kim¹, W.S. Han², D.Y. Noh², E.G. Chie³, S.H. Ha³, Y.J. Bang¹. ¹Seoul National University Hospital, Internal Medicine, Seoul, South Korea; ²Seoul National University Hospital, Surgery, Seoul, South Korea; ³Seoul National University Hospital, Radiation Oncology, Seoul, South Korea

Background: According to staging guidelines, patients are considered to have stage IV breast cancer if they have clinically or radiographically detectable metastases, with or without biopsy. However, this definition of distant metastasis could make the population of metastatic breast cancer heterogeneous. Though recent studies suggest that surgical removal of the primary tumour improved the prognosis of patients presenting with stage IV disease, these findings can be overestimated owing to heterogeneity. Therefore, we classified stage IV breast cancer into suspicious metastatic breast cancer (SMBC) and metastatic breast cancer (MBC), and assessed the impact of palliative surgery on survival.

Methods: Among 2998 breast cancer patients treated at Seoul National University Hospital between January 2000 and February 2009, we consecutively enrolled 201 patients with newly diagnosed stage IV breast cancer. The patients were classified into SMBC and MBC groups; if they had detectable metastasis, which was confirmed either by biopsy, involvement in multiple organs or involvement in a single organ as shown by at least two different imaging modalities (CT, MRI and PET), they were considered to have MBC; all others were classified as SMBC group. The impact of palliative surgery on overall survival (OS) was evaluated by multivariate analysis.

Results: Among 201 patients, 66 were classified into the SMBC group and 135 into the MBC group. 65 of 66 patients (98%) in the SMBC group and 65 of 135 patients (48%) in the MBC group received palliative surgery during their treatment period. With a median follow-up time of 43 months, median OS for the SMBC group who received surgery was 7.0 years; median OS for the MBC group receiving surgery was 3.5 years and for the MBC group not receiving surgery 2.1 years ($p < 0.001$). The 5-year OS rates were 75.5%, 41.8%, and 16.2% respectively. Among the MBC group, palliative surgery appeared to be an independent prognostic factor for OS, adjusting for age, co-morbidity, hormonal receptor, HER-2 status, number of metastatic lesions and organs, use of systemic therapy (chemotherapy, hormonal therapy) and use of radiation therapy in multivariate Cox regression analysis (HR = 0.38; 95% CI 0.23–0.65).

Conclusion: The significant difference of OS in patients receiving surgery between SMBC and MBC group suggests that the current category of stage IV breast cancer includes a heterogeneous population. Interestingly, we also found that primary tumour resection in patients with MBC was associated with improved OS. Therefore, a more precise definition of stage IV breast cancer is necessary to define the population who can benefit from palliative surgery. A well-designed prospective study is necessary to assess the prognostic value of palliative surgery.

5043

POSTER

Positron Emission Tomography With Computed Tomography Scanning as a Predictor of Pathological Complete Response After Neoadjuvant Chemotherapy

A. Moreno¹, J.M. Roman Santamaria¹, J.A. Garcia Saez², M.J. Merchan¹, A. Gonzalez Mate³, V. Furio⁴, J.A. Vidart⁵. ¹Hospital Clinico San Carlos, Gynecology Breast Service, Madrid, Spain; ²Hospital Clinico San Carlos, Medical Oncology, Madrid, Spain; ³Hospital Clinico San Carlos, Nuclear Medicine, Madrid, Spain; ⁴Hospital Clinico San Carlos, Pathology, Madrid, Spain; ⁵Hospital Clinico San Carlos, Gynecology, Madrid, Spain

Background: To determine accuracy of preoperative positron emission tomography (PET) to detect residual disease after neoadjuvant treatment.

Material and Methods: Population included 33 patients after neoadjuvant treatment for local advanced breast cancer with axillary metastasis at time of diagnosis. Mammography, sonography, magnetic resonance (MRI), positron emission tomography (PET-CT) were performed. PET-CT considerations: Cuts: Coronal, sagittal, transverse, Correction of attenuation: TAC 90 kV 165 mA, Radiotracer: 18F, FDG (Fluoro-desoxy-glucose), Dose:

7.81 mCi. Comparison between mammographic, sonographic, MRI and PET-CT findings and correlation with gold-standard (pathological report).

Results:

- Correlation with tumour size after neoadjuvant treatment: The most accurate tool for tumour assessment was PET-CT ($p = n.s.$).
 - Percentage of unnecessary mastectomies (no residual tumour in pathological report in mastectomy specimen after chemotherapy) that could be avoided due to PET-CT = 24% ($p < 0.05$).
 - Capability of PET-CT to predict tumour vitality: Tumour vitality was detected in 21 cases (95.4%).
 - Prediction of tumour complete response to chemotherapy: Mammography: 20%, sonography: 60%, RMI in 40% and PET-CT in 84% ($p < 0.05$).
- Conclusions:**
- Tumour size: PET-CT alone can reach equal results as a combination of mammography, sonography and magnetic resonance.
 - Tumour viability: PET-CT is the most reliable tool to predict tumour viability after chemotherapy.
 - Pathological complete response: PET-CT predicts complete histological response in 80% of patients, better than other studies.

5044

POSTER

A Simple Risk Score to Predict the Presence of NSN Metastases in Breast Cancer Patients With a Positive Sentinel Node

R. van la Parra¹, P.G.M. Peer², W. de Roos³, M.F. Ernst⁴, K. Bosscha⁴. ¹Radboud University Nijmegen Medical Center, Surgery, Nijmegen, The Netherlands; ²Radboud University Nijmegen Medical Center, Department of Epidemiology Biostatistics and Health Technology Assessment, Nijmegen, The Netherlands; ³Gelderse Vallei Hospital, Surgery, Ede, The Netherlands; ⁴Jeroen Bosch Hospital, Surgery, 's Hertogenbosch, The Netherlands

Background: Completion axillary lymph node dissection (ALND) remains the standard of care for patients with a positive sentinel lymph node (SLN). However, in 40–60% of patients the sentinel node is the only positive node. The aim was to develop a simple risk score to identify the patient's individual risk for non-sentinel node (NSN) metastases.

Materials and Methods: The risk score was developed on data of 182 breast cancer patients from one hospital, who underwent successful SLN biopsy and a completion axillary lymph node dissection, and was based on the predictive factors of NSN metastases, identified in a previous meta analysis. The risk score, consisting of pathological tumour size (≤ 20 mm / > 20 mm), lymphovascular invasion (yes/ no), extracapsular extension (yes/ no), size of the SLN metastases (≤ 2 mm / > 2 mm) and number of positive SLNs ($1 / > 1$) was subsequently validated on an external population from another hospital ($n = 180$). A receiver operating characteristic (ROC) curve was drawn and the area under the curve was calculated to assess the discriminative ability of the nomogram. A calibration plot was drawn showing the actual versus the mean predicted probabilities for each interval.

Results: The area under the ROC curve was 0.78 (range 0.71–0.85) in the original population and 0.78 (range 0.70–0.85) in the validation population. The risk score accurately predicted the low risk groups ($< 40\%$).

Conclusion: A simple risk score was successfully developed integrating just 5 clinicopathological variables to provide an individualized risk estimate of the likelihood of NSN metastases in breast cancer patients with a positive sentinel node. This risk score may assist in individual decision making regarding axillary lymph node dissection in sentinel node positive patients.

5045

POSTER

Outcomes of HER2+ Metastatic Breast Cancer (MBC) Patients (PTS) Treated With Continuous Inhibition of HER2 Activity: a Single Institution Study

P. Fedele¹, L. Orlando¹, A. Marino¹, E. Mazzoni¹, M. Cinefra¹, A. Nacci¹, F. Sponziello¹, N. Calvani¹, P. Schiavone¹, S. Cinieri¹. ¹Ospedale Antonio Perrino, Oncology, Brindisi, Italy

Background: Anti-HER2 therapies are effective in HER2+ breast cancer; even if resistance occurs, continued HER2 inhibition is required for antitumour effect. There are no definitive data on the clinical benefit of continued trastuzumab (T) beyond progression in MBC and the optimal duration of T in pts with long-term control of disease. This study explores outcomes of MBC pts treated with T in multiple sequential lines.

Methods: From 2001 to 2009 we evaluated OS and cardiac toxicity in 50 pts with HER2+ (ASCO/CAP criteria) MBC who received T-based therapy for ≥ 12 months. OS was measured from the beginning of T-based CT to the last follow up visit or death. Cardiac event was any decline in LVEF by $> 10\%$ from baseline or drop to $< 50\%$, III/IV NYHA CHF, new onset angina myocardial infarction, significant arrhythmias or sudden cardiac death.

Results: Median age was 59 (33–79), visceral disease in 60% and multiple site in 34%; 8 (16%) pts developed brain metastasis during T. All had overexpression of HER2 by IHC, FISH was centrally assessed in 78% and not amplified in 8%. T was administered for a median duration of 23 months (12–120). All pts received a median of 2 CT regimens (1–8); 9 out of 25 pts with endocrine responsive disease received endocrine therapy plus T after at least 1 CT regimen; 20 pts (40%) experienced CR and received T alone as maintenance for a median duration of 9 months (3–46); 23 (46%) pts received lapatinib, when the drug was licensed in Italy, after failure of at least two T-based CT lines. Median OS was 34 months (12–120). There were 3 cardiac events (6%) and consisted in asymptomatic decrease in LVEF to less than 50%; T-based CT was interrupted in 1 patient because of LVEF decrease to $\leq 40\%$.

Conclusions: T in multiple sequential lines demonstrated highly favorable outcomes in MBC pts. Overall the incidence of cardiac dysfunction was low.

5046

POSTER

Tumour Characteristics Determining Response to Neoadjuvant Chemotherapy in Locally Advanced Breast Cancer

Z. Savas Turna¹, M.A. Öztürk¹, D. Tural¹, F.S. Biricik¹, O. Yildiz¹, M.A. Ozguroglu¹, F. Demirelli¹, N.M. Mandel¹, E. Buyukunal¹, S. Serdengeci¹. ¹Cerrahpasa Tıp Fakültesi, Medical Oncology, Istanbul, Turkey

Background: Locally advanced breast cancer is a challenging situation in oncology with a wide spectrum of disease presentation and biological behaviours. Our aim was to determine the patient and tumour characteristics of patients with locally advanced breast cancer and also to determine the response rates to neoadjuvant chemotherapy regimens, recurrence patterns and disease free (DFS) and overall survival (OS) of patients.

Materials and Methods: Files of patients with locally advanced breast cancer followed up in our outpatient clinic between January 2000 and December 2009 were retrospectively analyzed. Patient and tumour characteristics, neoadjuvant chemotherapy regimens, types of surgery, response to neoadjuvant therapy, recurrence patterns and disease free and overall survival were determined. SPSS 15.0 for windows was used for statistical analysis. DFS and OS were estimated by using the Kaplan–Meier method. Log-rank test was used to evaluate multivariate analysis.

Results: Files of 115 patients with locally advanced breast cancer were analyzed. The mean age of patients was 48.94 (24–78) years and 3 of the patients were male. Premenopausal patients consisted 61.4% (n:70). Tumours showed inflammatory characteristics in 20.9% of patients (n:31). The patients received either anthracyclin containing or both anthracyclin and taxane containing neoadjuvant chemotherapy regimens 26.9%(n:31) and 70.4% (n:81) respectively. Clinical complete response rate, partial response rate, disease stabilization rates were 2.7%, 65.5% and 19.5% respectively and 12.4% of patients showed disease progression under neoadjuvant chemotherapy. Local surgical therapy could be done in 80% of patients where as 17.3% of patients (n:20) received primary radiotherapy as local treatment. Preoperative radiotherapy was given in 5.3% patients(n:6) because of inadequate response to neoadjuvant chemotherapy. Pathological complete response was achieved in 5.3% of patients all of whom had hormone receptor positive disease. Ratio of patients with triple negative disease was 11.3%(n:13) and progression under neoadjuvant chemotherapy was detected in 30.7% of this subgroup of patients. Recurrence patterns were local and systemic in 25.4% and 54.9% of the patients respectively. Median DFS of the patients were 26 months (CI: 10–42 months) and 5 year overall survival was found to be 77%.

Conclusion: Triple negative breast cancer show lower response rates to neoadjuvant chemotherapy regimens. New therapeutic choices are needed to achieve higher rates of complete response in patients with hormone receptor negative disease.

5047

POSTER

Prognostic Factors for Third-line Chemotherapy (TLCH) in Advanced Breast Cancer (ABC) – a Retrospective Study

M. Perez Martinez¹, J.A.S. Silva Juan Alejandro¹, Y.B.A. Bautista Aragon Yolanda¹, D.G.R. Gomez Rangel Jose David¹, G.A.G. Gonzalez Avila Gabriel¹. ¹Centro Medico Nacional Siglo XXI Imss, Clinical Oncology, Mexico City, Mexico

Background: The third-line of chemotherapy (TLCH) in Advanced breast cancer (ABC) is an important area of investigation, because is necessary a careful selection of patients to achieve clinical Benefit with the therapeutic options availables, with the principal objective of maintain quality of life (QoL) and survival benefit. For this reason, is important identify the patients who has a better opportunity of achieve these benefits.

Material and Methods: Since June 2009 to January 2010, we did a review of the files of the patients attended with third-line CHT and who previously received anthracyclins and taxanes for treatment of ABC. We collected information of 68 patients, who filled criteria for treatment of ABC and TLCH. The sample was of consecutive cases attended at Breast Tumour Unit. The median age was 47 (23 to 86 years), with a median Overall Survival of 35 months (10–170 months). The clinical characteristics of the patients was: Recurrent disease 35 patients, Clinical Stage: IV: 33 patients, the biologics subtypes were: Tumour with Hormonal Receptor positive were 43% of patients, Tumour Her 2 neu positive in 26% of patients, and Triple Negative tumour: 25% of patients, and 6% of patients without determination. The time of progression after second-line CH (SLCHT) were 6.4 months. Status Performance were: ECOG 1 (68%) and ECOG 2 (32%). The proportion of patients with visceral affection were: 54% vs 46% no-visceral. The number of sites with metastatic disease were: 1 site: 57% vs. 2 sites: 43%. 64% of the sample were treated with capecitabine and vinorelbine as TLCH.

Results: SLP were 4.8 months, and 8 months for OS. The statistical analysis of variables used was a logistic regression and the results shown three variables associated with poor prognosis for Disease Free Survival, and there were: DFS <3 months (of the last CHT treatment) (p: 0.027), Hb <12 gr, (p:0.012), DHL >500 (p:0.037). The variables associated with poor Overall Survival were: DFS <3 months (p: 0.010), Albumin <3.5 gr (p:0.001), and visceral disease (p: 0.0001).

Conclusion: We find in the sample studied that the criteria for treatment decision of TLCH in patients who present failure to anthracyclins and taxanes are: Those patients with low risk disease (non visceral sites) and DFS >3 months, and normal values of Hemoglobin, DHL and albumin.

5048

POSTER

Prognostic Factors in Triple Negative Breast Cancer – Clinical Experience in a Single Center

E.H.L. Hernández López Erika¹, A.S. Silva Alejandro¹, Y.B. Bautista Yolanda¹, P.M.M. Perez Martinez¹. ¹Centro Medico Nacional Siglo XXI Imss, Clinical Oncology, Mexico City, Mexico

Background: The Triple Negative Breast Cancer (TNBC) is a relevant area of study at the moment, because there is not a specific therapy. In hispanic population there is a significant problem about the information of different topics in oncology. We describe our experience of the clinical course of these biologic variant of disease in hospital of oncology which is a reference center of breast cancer.

Material and Methods: We analyzed breast cancer subtypes using a retrospective cohort of 255 patients who attended in 21st Century Medical Center in Mexico City. We identified patients with breast cancer who were diagnosed between January 2005 to January 2008, with a median follow-up of 52 months. Survival were evaluated by subtype using Kaplan Meier method and Cox regression analysis.

Results: Among 255 patients median age was: 51 years. The TNM classification: Stage II 108 patients (46.6%), Stage IIIA 58 patients (22.7%), Stage IIIB 27 patients (10.6%), Stage IV 8 patients (3.1%), 70% of patients with visceral disease. In early stage, the distribution was: size tumour: T2: 136 patients (53%), T3: 54 patients (21.1%), T4d: 18 patients (7%). pN1: 67 patients (26.2%), pN2: 27.4%. Histologic type was: Ductal: 222 patients (87%); nuclear grade: poorly differentiation: 139 patients (54.5%), vascular infiltration: 116 patients (45.5%), unknown 105 patients (41.2%). Predominant metastatic sites were: (skin, thoracic wall, brain, bone, lung, liver and mediastinal). 38% of the patients were treated with systemic therapy with a combination regimen with docetaxel and capecitabine. Overall Survival (OS) and Disease Free Survival (DFS) in 255 patients with triple negative breast cancer, was 59.8 months and 56.9 months for each one. In the patients with recurrence disease: DFS was 25.9 months and OS was 33.8 months. In 71 patients with recurrence disease: The prognostic factors identified were: tumour size, nuclear grade, number of positive nodes, vascular infiltration, all of them with statistical significance. The prognostic factors identify for risk of death were: tumour size, number of positive nodes and the vascular infiltration, all of them with statistical significance. An important factor was the vascular infiltration because, these factor was the only one consistent in the analysis of regression, with prognostic relevance in recurrence and risk of death.

Conclusions: We present the results of the experience of treatment of TNBC in our center, and a relevant factor associated with prognostic implication in recurrence and death was the vascular infiltration.