doses and its impact on the disease free survival in obese female breast cancer patients.

Method: We compared disease free survival between two groups of female breast cancer patients receiving adjuvant chemotherapy, both groups received FEC 100 regimen (Epirubicin 100 mg/m^2, 5-FU 500 mg/m^2, Cyclophosphamide 500 mg/m^2) for 6 cycles in the period between 2000–2008. Group A: (149 patients) received their regimen based on their actual body weight calculation of body surface area (BSA [m^2] = vHt. [cm]·Wt. [kg]/3600). Group B: (100 patients) received their regimen based on their adjusted body weight. (Adjusted Body Weight = Ideal Body weight + 0.4(Actual Body Weight − Ideal Body Weight.) Ideal Body Weight for females = 45 + 2.3kg for each inch >60 inches [60 inches = 152 cm]). Correlation with age, T & N status, hormonal status and HER2 status was done in the two groups.

Results: At median follow up period of 17 months there was statistical significance of disease free survival in favor of group B (70.3 months Vs. 52.4 months, p = 0.004). Both groups showed non-significant difference as regards correlation with other parameters: ER, PR, HER2 status, Age, T & N.

Conclusion: Using adjusted body weight is considered a proper alternative method for the calculation of anti-cancer drugs doses. An effort is currently using the substantial information to retrospectively examine outcome with respect to toxicities.

40 Poster

Adjuvant taxane chemotherapy is associated with a significant risk of febrile neutropenia

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Background: Taxane based adjuvant chemotherapy has shown benefit in terms of overall survival when compared to non-taxane containing regimens and is increasingly used in high risk patients. The risk of febrile neutropenia (FN) is known to be higher with taxane based chemotherapy. In South West Wales, taxane based chemotherapy is recommended for node positive and selected high risk node negative patients. Commonly used regimens include TAC (docetaxel, doxorubicin, cyclophosphamide x6q3w), FEC 100-D (fluorouracil, epirubicin, cyclophosphamide ×3q3w − docetaxel ×3q3w), AC-T (doxorubicin, cyclophosphamide ×4q3w − docetaxel ×4q3w) or dose dense AC-P (doxorubicin, cyclophosphamide ×4q2w − paclitaxel ×4q2w). Where anthracyclines are contraindicated, TC (docetaxel, cyclophosphamide ×4) or TCH (docetaxel, carboplatin, herceptin ×6) are used. Only patients receiving TAC or AC-P receive primary prophylaxis as routine. This study was peformed to determine the incidence of febrile neutropenia in patients receiving adjuvant taxane based chemotherapy.

Materials and Methods: A retrospective analysis of all patients who received adjuvant taxane based chemotherapy at Singleton Hospital and Prince Philip Hospital between January 2007 and Sept 2008 were included. FN was defined as fever >38ºC (single reading) and neutrophil count $<1\times10^9$. Admissions for FN and use of secondary GCSF were recorded.

Results: 135 patients were identified, including 2 male patients. 29 patients were admitted with FN (21%). 23 were receiving a taxane at the time of the episode with 6 patients receiving either FEC100 or AC. The median duration of hospital stay was 6 days. 2 patients had grade 4 toxicity requiring intensive support and >60 day hospital stay. There were no deaths.

96% of patients who did not receive primary prophylaxis, received pegylated GCSF with subsequent cycles and only 1 patient (4%) had a further episode of FN.

FN rates according to regimen are summarised in the table.

Chemotherapy regimen	No. of patients	Rate of FN (%)	Published FN rate (%)
AC-T	44	5(11)	16 (ECOG 1199)
AC-P	3	1(33)	3 (CALGB 9741)
FEC100-D	32	7(21.8)	11.2 (PACS-01)
TAC	29	6(20.7)	24.7 (BCIRG 001)
TC	18	6(33)	8 (US Oncology)
CH	7	3(42)	9.8 (BCIRG 006)
TH	1	1(100)	

Conclusion: The FN rate following taxane based adjuvant chemotherapy in our population is higher than expected according to published trial data. Most admissions were short in duration. The use of secondary GCSF is effective at reducing subsequent episodes.

ASCO guidelines recommend the use of primary prophylaxis if the FN rate is higher than 20%. This study suggests that primary GCSF should be routine for patients receiving TC and FEC-D. The number of patients receiving AC-P and TCH is too small for recommendations to be made and further data will be collected as these regimens become more common. For patients receiving TAC primary prophlaxis should include the combination of ciprofloxacin and pegylated GCSF.

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Prognostic factors and survival outcome in triple negative breast cancer patients in routine clinical practice in Slovenia

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Background: Triple negative breast cancer (TNBC) is characterized by negative hormonal receptors (ER and PR) and negative HER-2 status. It is a subgroup of breast cancer (BC) with poor survival despite aggressive systemic treatment when compared to other subgroups of BC.

The aim of our study was to analyze clinical and pathological characteristics and to evaluate prognostic significance of some well established prognostic factors in a large group of consecutive TNBC patients (pts) treated in a routine clinical practice.

Methods: Our retrospective study included 269 TNBC pts treated at Institute of Oncology Ljubljana between March 2000 and December 2006. Median age was 55.3 yrs (23–88.5). Most of pts were postmenopausal (58.7%), 41 (15%) were older than 65 yrs. Tumors were mostly IDC (90.7%), larger than 2 cm (59%), grade 3 (80.7%), without lymphovascular invasion (LVI) (73.3%), with high uPA (76.2%) and PAI-1 (60.5%) levels. The lymph node metastases were found in 46.1% of pts. Majority of pts were treated with adjuvant chemotherapy (CT) (80%), only 12% received neoadjuvant CT. Predominant CT regimen was anthracycline based CT (60%), 24.5% of pts received CMF regimen and 14.5% sequential anthracyclines and taxanes and 1% other regimens.

The survival outcomes were computed using the Kaplan-Meier method. Cox proportional hazard model was used in the multivariate analysis.

Results: After a median follow up of 5.9 yrs 6 (2%) pts experienced local, 79 (29%) pts distal recurrence and 66 (24%) pts died. Five-yrs PFS was 68.2% and 5-yrs OS 74.5%. Most of the relapses (72%) and deaths (63.6%) were in the first three yrs after treatment.

The results of Cox analysis are presented in Table 1.

Table 1

Characteristic	PFS			OS		
	univariate	multivariate		univariate	multivariate	
	p	p	HR (95% CI)	p	p	HR (95% CI)
Menopausal status (pre/peri vs. post)	0.172			0.278		
Age ⩾65 yrs vs. <65	0.009	0.012	1.79 (1.14−2.82)	0.035	ns	
Nodal status positive vs. negative	<0.001	<0.001	2.71 (1.64−4.46)	0.001	0.002	2.96 (1.51−5.82)
Size >2 vs. ⩽2 cm	0.004	ns		0.002	ns	
Grade III vs. I+II	0.315			0.917		
LVI yes vs. no	<0.001	ns		0.006	ns	
uPA >3 vs. ⩽3 ng/mg prot.	0.827			0.732		
PAI-1 >14 vs. ⩽14 ng/mg prot.	0.487			0.632		

ns = not significant.

Conclusions: In our series of TNBC pts nodal status and age >65 yrs were found to be an independent prognostic factor for PFS, whereas for the OS nodal status only. We found a pattern of high recurrence rate in the first 3 yrs following diagnosis and a decline in recurrence rate over the next 3 years.

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Magnetic resonance imaging (MRI) evaluation of pathologically residual tumors in breast cancer after neoadjuvant chemotherapy: experience of 2 centres in Spain

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Background: The objective of this study was to evaluate the accuracy of MRI in assessing tumor response following neoadjuvant chemotherapy in patients with locally advanced breast cancer (LABC).

Materials and Methods: 84 patients (pts.) with LABC underwent neoadjuvant chemotherapy with anthracyclines and taxanes±trastuzumab if HER2neu +. Fifty of them had baseline and preoperative MRI. The spread of pathologic residue was measured according to Miller and Payne's classification (MPC) and compared to preoperative MRI tumor size.

Results: MRI showed 22 (44%) complete responses, 24 (48%) partial responses >30%, 4 (8%) disease estabilizations and no disease progressions. Pathological tumor response using MPC was: 15 (30%) grade V (complete response), 7 (14%) grade IV, 17 (34%) grade III, 9 (18%) grade II and 2 (4%) grade I (no response). When results of preoperative MRI and pathological tumor size were compared, there was a Pearson correlation coefficient of r = 0.542, p = 0.01. MRI underestimated tumor size in 11 pts (22%). The difference betwen MRI and pathological size in this group was 16±14 mm. There was an overestimation of tumor size in 9 cases (18%) with 1 patient having pahological complete response (pCR). The sensitivity, especificity, positive and negative predictive values of MRI in predicting pCR were 93.3%, 77.1%, 63.6% and 96.4% respectively.

Conclusions: In our series, MRI accurately estimated residual disease with a good correlation to pathological tumor size. The major difficulty was detecting minimal residual disease or scattered cells as shows the positive predictive value of only 63.6% for pCR.

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Three-year follow-up of an adjuvant Phase II study looking at dose densification and altering sequence of the FEC-Doc regimen in patients with early breast cancer

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Introduction: Our recent study (Breast Cancer Res Treat 2009 114:103–112) showed that delivery of adjuvant sequential dose dense (dd) 5-fluorouracil, epirubicin and cyclophosphamide (FEC) and docetaxel (Doc) is feasible with growth factor support, and that the chemotherapy sequence appears to affect delivery of target doses and toxicity. We now report longer term outcome.

Patients: 117 patients with high-risk primary operable breast cancer were randomized (1:1:2:2) to conventional (three cycles of 3-weekly FEC_{100} then three cycles of 3-weekly Doc 100 mg/m^2, arm A, or reverse sequence, arm B) or dd treatment (four 10- to 11-day cycles of FEC_{75} then four 2-weekly cycles of Doc 75 mg/m^2, arm C, or the reverse, arm D). Enrolment took place from 22 September 2005 to 18 July 2006. Median age of the patients was 49 years, stage I-II-III 19%, 60% and 21%, respectively, ER pos 72%, PR pos 75% and HER2 pos 31%. We report disease free survival after 35 months median follow-up.

Results: Nine patients relapsed (8%); arm A 1 pt (5%), arm B 2 pts (10%), arm C 4pts (10%), arm D 2 pts (5%). There is no statistical difference when dose densification or altered sequence are compared, p = 0.76.

Conclusions: This study was underpowered for comparing the relapse rate between study arms, but allows to conclude that the risk of relapse at 3 years is low in this high risk population without any numeric difference in relapse in arms with (arm C,D) or without (A,B) dose densification, and with (B,D) or without (A,C) starting with taxane.

44 Poster

An international perspective on the use of aromatase inhibitors in breast cancer

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Background: Aromatase inhibitors (AIs) are increasingly used in the treatment of early breast cancer, although there is variance in practice patterns across different regions of the world, as seen in our previous data based on physicians' perceived and actual prescribing habits (wave 1 and 2 [W1 and W2]) [SABCS 2008, Abstract #1144]. Here we report findings from the 2009 survey (wave 3 [W3]) as compared with 2007 and 2008 to see if the emergent data have had an impact on physician practice patterns.

Material and Methods: Updated findings of the physician perception survey (PPS) and the patient chart review study (conducted from June to August 2009) were compared with previously reported results from 2007 and 2008.

Results: 312 physicians from the EU and Japan participated in the PPS study; 451 physicians from the USA, Germany, France, UK, Spain, Italy, and Japan in the patient chart study. Approximately 75% of patients initiated with hormone therapy are in the adjuvant setting, of which 40% received an AI as an initial adjuvant (IA). The main reason to choose AIs was based on efficacy; safety was similar among the AIs. However, regional differences were also apparent: in Europe, AI use was based more heavily on the efficacy/safety ratio, whereas in the United States, efficacy was the primary driver, irrespective of cost. Compared to W1 and W2, there was an increase in the use of AIs in the IA setting, with no change in the sequential adjuvant (SA) strategy. Similar to W2, in the SA treatment strategy, the switch occurred after only 2 years of adjuvant tamoxifen, and the expected superior efficacy of AIs is the primary driver of the SA strategy. Despite the fact that AIs are indicated for postmenopausal women, ~20% of clinicians are using these drugs in women <50 years of age in some countries. Although tolerability of AIs was not a major concern, 27% to 50% of patients reported preexisting comorbidities, mostly hypertension and musculoskeletal disorders, that need to be taken into consideration when choosing treatment.

Conclusions: The findings suggest that the use of AIs in the initial adjuvant setting is now the preferred treatment strategy by the majority of physicians; this is in accordance with the recent evidence from the trials and the recently published St. Gallen consensus [Goldhirsch A et al. Ann Oncol. 2009;20:1319–1329].

45 Poster

^{99m}Tc-MIBI elimination by a tumour as predictor of pathological effect of chemotherapy in locally advanced breast cancer patients

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Background: The aim of our investigation was to estimate predictive significance of ^{99m}Tc-MIBI elimination by tumor on the effectiveness of neoadjuvant chemotherapy in locally advanced breast cancer patients.

Materials and Methods: Investigation of accumulation and elimination of ^{99m}Tc-MIBI by tumor was performed in 99 breast cancer patients (stages: IIa − 6, IIb − 9, IIIa − 13, IIIb − 56, IIIc − 15 patients) before the beginning of chemotherapy (CAF, FAC, docetaxel, 3−6 cycles). ^{99m}Tc-MIBI was introduced intravenously (555 MBq), with the following two-phase (in 15 min and in average 3 hours) static scintigraphy of a breast. Relative accumulation (RA) of ^{99m}Tc-MIBI in tumors in 15 min after injection (RA1), RA after 3 hours (RA2), and percent of elimination (PE) were calculated [PE = (RA1 − RA2)×100/RA1]. 85 patients were operated and pathological effect can be evaluated in these cases. "No residual tumor" and "Microscopic residual tumor" were united as "pathological effect".

Results: Clinical effect was observed in 76% (complete effect − in 11, partial effect − in 52, stabilization − in 21, and progression − in 1 patient). Pathological effect was observed in 38% (no residual tumor − in 14, and microscopic residual tumor − in 18 cases). In patients with high level of the PE pathological effect was not attained (see table). There were more strong predicting pathological effect factors, calculated by regression analysis: PE (p = 0.00008), RA2 (p = 0.003), Pgp-170 (p = 0.023), KI-67 (p = 0.033), ER (p = 0.067).

Table. PE level and frequency of clinical and pathological effects

PE level	Frequency of clinical effects	Frequency of pathological effects
Low (⩽10%)	79% (27/34)	62% * (21/34)
Middle (11−21%)	85% (22/26)	42% * (11/26)
High (>21%)	56% (14/25)	0% (0/25)
All	76% (65/85)	38% (32/85)

*p < 0.05 in comparison with high PE level.

Conclusion: Our first results confirm the main hypothesis: rapid ^{99m}Tc-MIBI elimination by a tumor predicts the low pathological response to chemotherapy. Detection of the high level of ^{99m}Tc-MIBI PE by tumor can indicate that neoadjuvant target or endocrine therapy may be more preferential, than chemotherapy.