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.

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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].

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^{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.