studies are needed to better codify the therapeutic sequence in order to spare patients from unnecessary secondary effects and iatrogenic complications.

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Breast cancer during pregnancy – a prospective and retrospective European registry (GBG-20/BIG02−03)

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Background: In the treatment of the pregnant breast cancer patients, the evidence upon which we base our decisions has been largely limited to case reports, case-control studies and retrospective cohorts. Therefore, the German Breast Group has launched a registry (GBG-29/BIG 02−03) for patients with breast cancer that has been diagnosed during pregnancy.

Material: Every pregnant breast cancer patient is eligible. The primary endpoint is the fetal outcome 4 weeks after delivery. Secondary endpoints are maternal outcome of pregnancy, stage and biological characteristics of breast cancer, breast cancer therapy (treatment, response to chemotherapy, type of surgery), sensitivity and specificity of diagnostic procedures, outcome of the newborn after 5 years, outcome of breast cancer 5 years after diagnosis.

Results: From April 2003-December 2007, 122 patients have been prospectively (n = 39) and retrospectively (n = 83) registered. The median age is 33 years (range 24−43). T1−2: 71.7%; T3−4: 28.3%; N+ 66.6%; ductal invasive 83.8%, lobular 4.8%, inflammatory 4.8%, Grading 3: 69.5%, ER/PR neg 53.5%; Her-2 pos: 41.3%. At the time of diagnosis the median gestational age is 21 weeks; 21.6% of all patients have been diagnosed during the 1st, 43.3% during the 2nd and 35.1% during the 3rd trimester. From the patients who continued pregnancy, 33.3% received surgery only, 43.2% were treated by surgery and chemotherapy, 5.4% were treated only by chemotherapy and 2.7% had no treatment. Cytotoxic regimens used during pregnancy: EC/AC n = 23, CMF n = 11, FEC = 7, taxane = 11. The median time of delivery was 36 weeks (range 30−42), 54 newborns exposed to systemic therapy had alopecia (1), small for gestational age (1), 1 had trisomia 18 and died one week after birth, 1 had necrotic enterocolitis and died 3 weeks after birth. Fetal outcome in babies, who received intrauterine chemotherapy was not different from those who did not.

Conclusion: Pregnant breast cancer patients can probably be treated as close as possible to standard recommendations in specialized multidisciplinary teams. The registry needs to be continued to get better data on long time follow-up.

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Febrile neutropenia, related hospitalizations and chemotherapy delivery in breast cancer patients younger than 65 years receiving pegfilgrastim primary prophylaxis vs current practice neutropenia management

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Background: Elderly patients are recognized as being at substantial risk of febrile neutropenia (FN) during cancer chemotherapy (CT), but younger patients are also at risk, particularly with the trend toward more intense regimens. Furthermore, FN frequently leads to CT dose modification. Delivery of planned dose is essential in younger patients who are likely to be treated with curative intent. In this subgroup analysis from the NeuCuP project, we compare the relative merits of FN prevention with pegfilgrastim primary prophylaxis (PPP) vs current practice neutropenia management (CP) in patients <65 years of age.

Methods: Studies involving breast cancer CT regimens with moderately-high (15−20%)/high (⩾20%) risk of FN were identified by literature review. For this integrated analysis, individual patient data were available from 8 clinical trial and 3 observational studies involving these regimens and PPP (pegfilgrastim 6 mg in all cycles) or CP neutropenia management (no granulocyte colony-stimulating factor [G-CSF] or pegfilgrastim/daily G-CSF in any cycle). Descriptive data are reported for the subgroup of patients aged <65 years with respect to FN over all cycles (primary outcome measure) and other related parameters.

Results: 2024/2282 patients were aged <65 years (1149 PPP, 875 CP). Patients' mean age (±SD, years) was 49.0±8.5 for PPP vs 50.1±8.6 for CP, around one quarter had Stage IV disease (27% vs 28%) and about one third had prior CT/radiotherapy (30% vs 37%). The most common CT regimens were docetaxel (Doc), Doc/doxorubicin (A)/cyclophosphamide (C), ADoc and AC → Doc. In cycle 1, 76% of CP patients received no G-CSF, 12% received pegfilgrastim only, and 12% received various G-CSF regimens. FN, FN-related hospitalization and CT delivery parameters for PPP vs CP are shown (Table).

	All cycles n (%) [95% CI]		Cycle 1, n (%) [95% CI]	
	PPP (N = 1149)	CP (N = 875)	PPP (N = 1149)	CP (N = 875)
FN	60(5) [4, 7]	136(16) [13, 18]	34(3) [2, 4]	80(9) [7, 11]
FN-related hospitalization	39(3) [2, 4]	82(9) [7, 11]	29(3) [2, 3]	50(6) [4, 7]
Dose delay >3 days	173(15) [13, 17]	137(16) [13, 18]	N/A	N/A
Dose reduction ⩾15%	93(8) [7,10]	204(23) [21,26]	N/A	N/A

Conclusions: FN and related hospitalizations were less frequent in younger breast cancer patients who received PPP rather than CP neutropenia management in support of CT with moderately-high/high FN risk. Fewer CT dose reductions occurred in the PPP group. PPP may offer better FN protection and aid delivery of planned CT doses in this patient group.

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Breast units in Germany – yes or no

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Background: Currently there is an ongoing discussion concerning the necessity of certified Breast Units (CBU) in Germany. The establishment of new BU leads inevitably to a decreased density of Breast Cancer (BC) treating hospitals. On the other hand better treatment options are being hoped for BC patients treated at BU. For that reason we analyzed the treatment of BC in CBU in comparison to not certified hospitals regarding treatment strategies, local recurrence (LR), overall survival (OAS) and the impact of continual education in northern Germany.

Material and Method: A retrospective analysis of 1327 patients diagnosed with BC in the years 1997/98 and 2005/06 was performed. Data has been collected from the Cancer Register Rostock using the "Giessener Tumor Documentation System" (GTDS©). BC patients who received treatment either at a CBU or a not-certified hospital with the following criteria were included: pT1−4, pN0/+, cM0/+. Pearson's chi-square test and survival analysis using Kaplan Meier were performed for statistical analysis.

Results: OAS (p = 0.398) and LR (p = 0.398) did not differ with regard to the treating hospital. Concerning the applied surgical methods (breast conserving therapy, oncoplastic surgery, modified radical mastectomy) a significant difference (p < 0.001) was found between patients being treated at a CBU or a not certified hospital. The rate of breast conserving surgeries was significant higher in CBU and additionally the rate of secondary operations was fewer. The number of BC treating hospitals decreased from 1997/98 to 2005/06 from 7 to 3. Simultaneously the number of patients treated at certified BU increased.

Conclusion: Despite missing advantage for OAS, the treatment of BC patients should be performed at CBU. With increased numbers of patients the surgical treatment was superior in CBU and with more treatment options the patient satisfaction and quality of life was increased.

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Common polymorphisms and haplotypes in NAD(P)H:Quinone Oxidoreductase-2 (NQO2) make a contribution to breast cancer susceptibility

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Background: Clinical evidence supports a role of estrogen in breast carcinogenesis. The estrogen metabolites such as semiquinone and quinone can lead to depurination and mutation of DNA. Although it has been elucidated that NAD(P)H:quinone oxidoreductase-1 (NQO1) can