(AuTL) was administrated into recurrent tumor site biweekly, and additionally trastuzumab (2 mg/kg) was infused systemically every week in the 7 HER2+ patients. Patients continued on therapy until disease progression.

Furthermore, to assess the mechanism of trastuzumab-effects in the therapy, dendritic cells (DC) from peripheral monocytes of several healthy donors were generated in IL-4/GM-CSF in vitro, and fed with trastuzumab-treated/-untreated HER2+ tumor cells or tumor cell lysate. These antigen-loaded DCs were examined in the phenotype, cytokine productions, and the ability to induce HER2 specific T cells in vitro.

Results: In the clinical trial, one patient of PR was observed in the HER2+ group, which showed marked regression in the injected field of metastatic lymph node, but none of PR in the HER2−. SD/PD was 3/3 or 3/4 pts in the HER2+ or HER2− group, respectively. The carcinomatous pleural effusion was disappeared and/or well controlled in 6 pts (HER2+ vs. HER2−; 4 vs. 2 pts), and the tumor marker proteins (CEA, CA15−3, TPA) were decreased significantly in 5 pts (HER2+ vs. HER2−; 4 vs. 1 pts). Adverse effects were tolerable in all the patients.

In DC experiments in vitro, trastuzumab-opsonized antigen-loaded DC showed significant enhancement of the ability to induce CD8+ T cells specific for HER2-peptides with the higher production of IL-12p70.

Conclusions: Adoptive cell therapy combined with trastuzumab is a well-tolerated regimen. Our preliminary data suggest that this strategy may benefit heavily pretreated HER2+ metastatic breast cancer patients. It might be in part due to the involvement of mAb in the ability of DC cross-presentation followed by the enhancement of antitumor cellular immunity.

172 Poster

BRCA1 mutation is strongly associated with a triple negative phenotype in breast cancer patients

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Introduction: Our aim was to compare the differences in clinical presentation and tumor pathology features among breast cancer patients with BRCA1 and BRCA2 mutations and non-BRCA carriers.

Material and Methods: Tumor pathologic features (histology, hormone receptor and Her2 expression) and clinical characteristics (age and clinical stage at diagnosis, gender, bilaterality, and BRCA mutation status) were examined in 188 breast cancer patients who underwent BRCA germline genetic testing between 2002 and 2008 through a retrospective review of our hereditary cancer database.

Results: Of the 188 patients, 129 (69%) were non-BRCA carriers, 28 (15%) were BRCA1, and 31 were BRCA2 (16%). Age at diagnosis was similar among the three groups (40, 42 and 46 respectively, non-statistical different). Among male breast cancer patients (7), none was a BRCA1 carrier and three were BRCA2 carriers. Bilaterality was more frequent in BRCA1 and BRCA2 carriers compared to non-carriers (25%, 24%, and 14%, respectively, non-statistically different). Triple-negative breast cancer (estrogen receptor, progesterone receptor, and HER-2/neu negative) was diagnosed in 85% (18/21) of the BRCA1 carriers, 21% (4/19) of the BRCA2 patients, and 29% (27/93) of the non-BRCA patients ($p < 0.01$). We did not observe any patient with a BRCA1 mutation and HER2 overexpression ($p < 0.01$ compared with BRCA-2 and non-BRCA carriers), while HER2 overexpression was similar between BRCA2 (15%) and non-BRCA carriers (23%) ($p = 0.47$).

Conclusions: Breast cancer in BRCA1 mutation carriers is more frequently triple negative while patients with BRCA2 mutations have a similar clinical and pathologic phenotype than non-BRCA patients. These differences may have therapeutic implications.

173 Poster

Ductal carcinoma of the breast with morphologic and inmunohistochemical features like columnar cells

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Background: Columnar cell lesions (CCL) of the breast are detected with increasing frecuency in routine practice. The frequent coexistence of CCL with low grade DCIS in the same breast and overlapping morphologic features with ADH and DCIS provides evidence for CCL being a candidate precursor in the progression to low grade DCIS and invasive carcinoma. This hypothesis has been supported by the similar cytologic appearance of cells within atypical cystic lobules and low grade DCIS of the same specimens or cells within CCL and cells comprinsing coexisting DCIS or tubular carcinoma.

Material and Methods: In 500 cases of breast cancer in our routine practice, we identified four cases of ductal carcinoma with morphologic features like columnar cells. We assessed inmunohistochemistry (IHC) studies for estrogen receptor (ER), progesterone receptor (PR), androgen receptor (AR), HER-2/neu, cytokeratin 19 (CK 19), cytokeratin 5/6 (CK5/6), cytokeratin 34bE-12 (CK34bE-12), Bcl-2, cyclin D-1 (CD1), Ki67 MIB1. Results of hormonal receptors were scored by H-Score previously described. HER-2/neu were scored positive with score 3. Ki67MIB1 was scored by percent of the positive tumor cells.

Results: The characteristics of the patients and IHC are shown in the table. Microscopically the tumors showed irregular ducts lined with one or two layers columnar cells with prominent apical cytoplasmic snouts and intraluminal secretion. Nuclear/cytoplasmic ratio was increased. Nuclei round to ovoid, hyperchromatic nuclei with inconspicuous nucleoli. In other areas there were solid pattern and complex architecture with micropapillae, fronds, arcades, rigid bridges. We observed in three cases in some areas intraluminal calcifications.

Gender/Age	Tumor size (cm)	Axilla status	Symptom duration	ER	PR	AR	HER2neu	CK19	CK5/6	CK34β E 12	CD1	Bcl2	Ki-67
Female/94	3×3	1 node +	1 year	200+	180+	+	−	+	−	+	+	+	30%
Female/47	2.5×2	-	2 years	200+	170+	+	−	+	−	+	+	+	20%
Female/80	2×2	-	2 years	150+	100+	+	−	+	−	+	+	+	20%
Female/43	1.5×1	3 nodes +	1 year	200+	170+	+	−	+	−	+	+	+	30%

Conclusion: The morphologic and inmunohistochemical features of these carcinomas are similar with columnar cells. These carcinomas could be the malignant form of the CCL. We need further studies for categorize these tumors.

Wednesday, 24 March 2010 18:15–19:15

POSTER SESSION

Molecular biology, markers

174 Poster

The prognostic value of angiogenesis genes polymorphisms in women with infiltrating ductal breast carcinoma

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Background: Angiogenesis is an important step in the development of infiltrating ductal carcinoma which is the most common histologic type of breast cancer. Polymorphisms in genes encoding angiogenic factors or their receptors are known to predispose to breast cancer [Schneider et al., 2008; Clar et al., 2009]. The aim of our study was to investigate the association of functional polymorphisms in the *VEGF-2578C*/A (rs699947), *FGFR2A*/G (rs1219648), *TGFB1–509C>T* (rs1800469) and *IL10–592C>A* (rs1800872) genes with infiltrating ductal breast carcinoma risk, progression and response to neoadjuvant chemotherapy.

Material and Methods: Two hundred sixteen patients with operable primary infiltrating ductal breast carcinoma ($T_{1-4}N_{0-2}M_0$; age from 20 to 77 years) who received two-four cycles of neoadjuvant chemotherapy in the Tomsk Cancer Research Institute were included in the present study. The healthy women ($n = 286$; age from 30 to 75 years) from Western Siberian region were used as the control group. DNA was extracted from peripheral blood and the genotypes were analyzed using PCR-restriction fragment length polymorphism protocols.

Results: The frequencies of VEGF-2578A/A, FGFR2G/G and IL10–592A/A variants were significantly higher in the patient group when compared with controls (OR = 2.3, $p = 0.002$; OR = 2.3, $p = 0.002$ and OR = 3.2, $p = 0.008$ respectively). Significantly lower frequencies of FGFR2A/A and