

Results: One day after the last catumaxomab infusion 46 or 47 patients analysed in the OC or NC treatment group showed a statistically significant decrease in VEGF to total protein ratio when compared to the measurement before catumaxomab therapy (ANOVA $p=0.034$ for OC and $p<0.001$ for NC). These results are consistent with the tumor cell elimination previously assessed in these patients. In contrast, the OC control group showed a statistically significant increase of VEGF to total protein ratio ($p=0.009$) which is accompanied by an increase in tumor cell numbers. In the NC control group VEGF to total protein ratio remained unaffected ($p=0.096$).

Conclusions: Catumaxomab therapy significantly reduced VEGF protein levels correlating with tumor cell elimination in MA which in turn led to the prevention of fluid accumulation in the peritoneal cavity and finally to prolonged PuFS of patients suffering from MA.

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POSTER

Review of cancer diagnoses in BRCA 1/2 carriers: hypersensitivity of BRCA 1/2 patients to cisplatin may also apply to uterine carcinosarcoma (UCS)

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Background: When identified, BRCA1/2 carriers must be included in long-term follow-up studies. Yearly review of clinical data concerning BRCA1/2 carriers identified through our program is performed.

Materials and Methods: Review of clinical files of all BRCA1/2 carriers identified up to 31st March 2009 for new cancer diagnoses. The following variables: sex, ages, age at all cancer (CA) diagnoses, duration of follow-up and outcomes of treatments will be updated in September 2009.

Results: Up to March 2009, 170 BRCA1/2 carriers were identified: 130 women (71 affected with CA and 59 healthy at risk) and 40 men (14 affected with CA and 26 healthy at risk). The following CA diagnoses were established during follow-up as BRCA1/2 carriers: 8 cases of Breast CA (4 cases in previously healthy women and 4 in Breast CA survivors – 3 women and 1 man); 5 cases of Prostate CA (4 in Breast CA survivors and 1 case in a Gastric CA survivor); 2 cases of Gastric CA in male Breast CA survivors; 1 Peritoneal CA in a previously healthy female; 1 Basocellular CA in a male healthy carrier and 1 UCS in a Breast CA survivor. The UCS case refers to a BRCA2 female Breast CA survivor (initial diagnosis at 42 yrs) whose uterine diagnosis was established when investigating uterine bleeding while on Tamoxifen treatment. After surgery (pathology revealed an uterine sarcoma with heterologous elements) and radiotherapy, she was kept under surveillance and a retroperitoneal, irresectable UCS relapse was observed after 9 months (confirmed by surgery and pathology). After chemotherapy with Cisplatin and Ifosfamide a complete response confirmed by CT, PET scan and surgery was observed and pt is free of disease after 32 months of follow-up.

Conclusions: BRCA1/2 cancer survivors (female and male) should be included in surveillance programs due to their risk of second and third cancers. The remarkable Cisplatin hypersensitivity observed in BRCA1/2 patients may not be limited to ovarian cancer; known cases of breast cancer and the unexpected long-term survival without relapse of our pt with metastatic UCS suggests that platinum hypersensitivity may be a general feature of cancers in BRCA1/2 patients, even in neoplasms not belonging to the BRCA phenotype.

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POSTER

Clinical role of human epididymis protein 4 (HE4) in epithelial ovarian cancer

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Background: HE4 is one of the most promising novel ovarian cancer biomarker. The aim of this study was to evaluate the potential role of serum HE4 (sHE4), in comparison with serum CA125 (sCA125), in diagnosis and monitoring of epithelial ovarian cancer (EOC) patients. Moreover, we investigated the relationship between sHE4 and clinicopathologic characteristics of EOC patients, in order to assess if sHE4 could influence EOC biology.

Material and Methods: For ovarian cancer detection study we included 45 healthy women, 45 patients with benign pelvic masses, and 87 EOC

patients. All samples were collected before any treatment. For ovarian cancer monitoring study, we selected 13 EOC patients who underwent second look laparotomy procedures with no clinical evidence of disease following primary chemotherapy. Two out of 13 patients had macroscopic persistence of cancer, 5 had microscopic persistence of cancer while 6 had no evidence of disease after second look pathological evaluation. sCA125 and sHE4 were quantified by Architect CA125 II immunoassay kit (Abbott Diagnostics, IL, USA) and by HE4 EIA assay (Fujirebio Diagnostics, Malvern, PA), respectively. Patient charts were reviewed to obtain data regarding diagnosis, histology and response to treatment.

Results: ROC curves and statistical tests showed that sHE4 and sCA125 had comparable ability to discriminate EOC from benign masses (ROC curve AUC: HE4 = 0.95, CA125 = 0.92; AUC difference: not statistically significant $p=0.29$) whereas sCA125 was better than sHE4 in distinguishing EOC from healthy controls (ROC curve AUC: HE4 = 0.93, CA125 = 0.98; AUC difference: statistically significant $p=0.03$).

We found that sHE4 levels were significantly lower in clear cell histotype compared to serous and endometrioid histotypes ($p=0.0003$) and that sHE4 levels were positively associated to FIGO stage ($p=0.0003$).

When we compare the biomarker levels between preoperative and second look times, all patients showing microscopic or no residual disease displayed 95–99% decrease in both serum marker levels. More interestingly, in the only 2 patients experiencing macroscopic cancer persistence sCA125 diminished of 99% while sHE4 of 30% and 70%.

Conclusions: In conclusion, our results showed that sHE4 could identify patients with macroscopic persistence of cancer, following primary chemotherapy. These patients will be eligible for stronger therapeutic interventions.

Finally, the positive association between sHE4 and FIGO stage suggested a possible role of sHE4 in ovarian cancer progression.

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POSTER

Prognostic value of EGFR, COX-2, Ki-67, thymidylate synthase (TS) and cell cycle regulators expression in sporadic colon carcinoma

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Background: EGFR, COX-2, TS and Cell Cycle Regulators are involved in colorectal carcinogenesis and may be useful predictors of clinical outcome. This retrospective study was carried out in order to assess biomarkers expression, relationship with clinical features and prognostic value.

Patients and Methods: 123 tumor samples from patients with histologically confirmed colon carcinoma in stages I-IV TNM system were studied. All patients were treated with surgery and adjuvant FPs-based chemotherapy (CT) as indicated by stage or risk factors. Overexpression of protein tumor markers were analyzed by immunohistochemistry assay in PEFF archived tumor samples with specific MoAbs: EGFR clon H11; Cox-2 CX294; TS TS106; p53 DO7; Ki-67 MIB1; ciclina D1 DCS6; p21 SX118 and p27 SX53G8, respectively and evaluated with semiquantitative method (score 0–3).

Results: EGFR protein expression was positive in 55 tumors (43.9%), COX-2 in 53 (43.1%); TS in 81 (57.7%); p53 in 78 (63.4%); cyclin D1 in 48 (39%); Ki67 in 75 (61%), p21 in 26 (21.1%) and p27 in 46 (37.4%) cases. No significant correlations between biomarkers and conventional prognostic factors were confirmed except TS that was associated with positive nodes and stage III (chi-square test, $p<0.05$). We found a positive correlation between EGFR with p53; COX-2 with cyclin D1, p27, Ki-67 or TS and cyclin D1 with p21 or p27 expression (Spearman test, $p<0.05$). There were not differences in DFS or OS by biomarkers expression in all cohort of patients or in subgroups treated with CT (log rank test $p>0.20$). In multivariate analysis, age, grade, LVI and TNM stage were statistically significant prognostic factors (Cox model; $p<0.05$).

Conclusions: In our experience, biomarkers were overexpressed in similar ranges previously reported in the literature except p21, they were found independent of conventional clinicopathological features and none of them had prognostic value.