terms of specificity and sensibility (Sp 100%, Sn 77,6%) to identify frail group. 36% of patients resulted frail. Frailty was associated with longer hospitalization after surgery (11,5 days vs 8,3 days, $p = 0,01$). No differences occurred in the incidence of post-operative adverse events, but grade III and IV complications were observed exclusively in 2 frail women. Only 38,5% of frail patients completed chemotherapy treatment; delay in chemotherapy administration has been reported in 77% of frail patients (vs 17,6% in 'fit group', $p = 0,008$) and dose reduction in 70,6%. Thrombocytopenia (69.3% vs 0%, $p = 0,002$) and anemia (77% vs 29.4%, $p = 0,002$) were more prevalent in the frail group, as well as non-hematological adverse events.

Conclusions Our tool seems to effectively stratify elderly patients with gynecological cancers according to frailty, in order to choose the best treatment for frail women and avoid undertreatment in fit ones.

IGCS20_1122

144 OVARIAN CARCINOMA LONG-TERM SURVIVORS: A LARGE SINGLE CENTER STUDY AT THE TüBINGEN UNIVERSITY WOMEN'S HOSPITAL

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Introduction/Objectives Most ovarian carcinoma patients present with advanced-stage disease and outcome is fatal in many cases. However, the biological behavior of ovarian carcinoma can be quite variable and long-term survival is reported in up to 30% of patients. It is the aim of this project to identify characteristics associated with long-term survival.

Methods Patients diagnosed with ovarian carcinoma between 2000 and 2012 were identified and follow-up data was collected. In patients who survived for at least 8 years a detailed chart review was performed.

Results A total of $n=749$ patients with adequate follow-up was identified, of which $n=225$ (29%) were alive for at least 8 years after diagnosis. Median follow-up was 11.7 years. Median age at diagnosis was 53.5 years. 57% were diagnosed in advanced stage ($\geq$ FIGO IIB). Histotyp was found to be high-grade serous in 53%, low-grade serous in 7.9%, mucinous in 7.4%, clear cell in 3.7% and endometrioid in 20% of patients. Median progression free survival was 5.0 years in early, and 2.8 years in advanced-stage patients.

Conclusion Despite ovarian carcinoma being perceived as a highly fatal disease, long-term survival is observed in a substantial number of patients and is not limited to early-stage or low-risk disease. Although prognostic factors are well established, further research of patient characteristics, genetic features and treatment modalities will help to better understand factors contributing to long-term survival. We encourage the scientific community to be aware of this special patient group, which may be key to improving our daily approach to ovarian carcinoma patients.

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145 KRAS MUTATION MAY BE ONE OF THE CHEMO-RESISTANT PHENOTYPE OF OVARIAN CLEAR CELL CARCINOMA

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Objectives Ovarian clear cell carcinoma (OCCC) is more prevalent in Japan than western countries, and exhibits chemo-resistant phenotype and poor survival. In this study, we characterized the patient-derived xenograft (PDX) model of OCCC, and to correlate the clinical features of OCCC with KRAS mutation.

Methods We transplanted 19 primary or metastatic tumors derived from ovarian cancer patients directly into NOG mice. The comprehensive gene expression and mutation profiles as well as histologic characteristics were compared between parental tumors and PDX ones. Response to cytotoxic agents was analyzed using PDX model, and correlated with clinical outcome. In 61 consecutive OCCC patients, the genomic DNAs were extracted from FFPE, and analyzed KRAS mutations.

Results Total of 6/19 (31.6%) PDX models were established, and 2 were found to be OCCC in histological assessment. One of the OCCC PDXs had KRAS mutation, which exhibited resistance for platinum- and taxane-drugs and the patient had poor clinical outcome. The other PDX tumor without KRAS mutation was sensitive to cytotoxic agents and the patient showed good clinical outcome. Then we correlated KRAS mutations with their clinical features in OCCC. From 13 samples, we detected KRAS mutations (21%). Except for one patient, KRAS mutated OCCC had stage I diseases. Two patients experienced recurrences, and both of them had no response to conventional chemotherapy. They showed significantly worse overall survival than other recurrent OCCC patients without KRAS mutation.

Conclusions KRAS mutation may be one of the chemo-resistant phenotypes in OCCC.

IGCS20_1124

146 PROGNOSTIC SIGNIFICANCE OF HISTOLOGIC SQUAMOUS METAPLASIA AND IMMUNOHISTOCHEMICAL STAINING PATTERNS OF β -CATENIN AND P53 IN BIOPSY-PROVEN ENDOMETRIAL INTRAEPITHELIAL NEOPLASIA

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Background Endometrial intraepithelial neoplasia (EIN) is a monoclonal proliferation of endometrial glands that can

progress to endometrial carcinoma (EC). Squamous metaplasia (SM) is a common morphologic feature of EIN associated with β -catenin protein alterations. Patients with high-risk endometrial cancer (copy-number high) have frequent TP53 gene mutations and worse outcomes. This study evaluates the prognostic significance of SM, β -catenin, and p53 expression in EIN. **Methods** This retrospective study included patients with biopsy-proven EIN, subsequent hysterectomy, and evaluable tissue. Hematoxylin and Eosin (H&E) slides were reviewed to characterize SM; β -catenin and p53 expression were evaluated by immunohistochemistry (IHC).

Results 88 cases met inclusion criteria. On biopsy specimen, 11.4% (10/88) of patients had associated SM, and 2.3% (2/88) had abnormal p53 staining. 80% (8/10) of patients with SM had positive staining for β -catenin versus 2.6% (2/78) of patients lacking SM ($p < 0.001$) (figure 1). 34.1% (30/88) of patients were diagnosed with EC on subsequent hysterectomy. SM, β -catenin, and p53 expression on biopsy specimen were not correlated with a finding of neoplasia on subsequent hysterectomy (EC or EIN) ($p = 0.427$, $p = 0.104$, and $p = 0.583$, respectively).

Abstract 146 Figure 1 Biopsies from patients with EIN were evaluated via H&E. IHC was used to evaluate beta-catenin nuclear staining and p53 overexpression or null expression. Abbreviations: BCAT +, beta-catenin positive expression; WT, wild-type)

Conclusions Our findings confirm the association between SM and β -catenin abnormalities. Although rare, abnormal p53 IHC in EIN is concerning and may represent a precursor to copy-number high EC. Although these findings demonstrate molecular abnormalities within EIN, β -catenin and p53 expression do not reliably predict cancer diagnosis on final hysterectomy specimen.

IGCS20_1125

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THE DEVELOPMENT OF THREE-DIMENSIONAL PLATFORM FOR PATIENT-DERIVED OVARIAN CANCER TISSUE REMODELLING. A SYSTEMATIC LITERATURE REVIEW

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Introduction There is an unmet requirement for ex vivo tumour models that would predict drug responses and in turn help determine treatment regimens and possibly predict resistance before clinical studies. Research has shown that three-dimensional models of ovarian cancer are more realistic than two-dimensional in vitro systems as they can capture patient in vivo conditions more accurately. Most of studies aiming to recapitulate the ovarian tumour characteristics and study chemotherapy responses use ovarian cancer cell lines. However, despite the advantages of utilising cancer cell lines, they are not as informative as systems applying patient derived cells. In this review we discussed the most recent advances in the

Abstract 147 Figure 1

Abstract 147 Figure 2