

ovarian tissues. Expression of TMED9 was respectively evaluated by Immunohistochemistry staining of EOC, borderline, benign, and normal epithelial tissues, qPCR, western blotting, and public data sets. Associations of clinicopathological features and prognosis with TMED9 in EOC patients were analyzed in our recruited cohort and GEO datasets. Also, the functional roles of TMED9 were evaluated by MTS, colony formation, and transwell migration/invasion assays in EOC cell lines.

**Results** TMED protein was elevated in EOCs according to a GEO and TCGA datasets. High mRNA and protein levels of TMED9 were observed in EOCs compared to borderline, benign, and normal nonadjacent ovarian epithelial tissues ( $p < 0.001$ ). Importantly, high expression of TMED9 was associated with poor overall survival and disease-free survival compared with low expression of TMED9 in EOCs ( $p = 0.006$ ,  $p < 0.001$ ). In vitro results also demonstrated the knockdown of TMED9 was associated with decreased cell invasion ( $p < 0.001$ ), migration ( $p < 0.001$ ), proliferation ( $p < 0.001$ ), and colony-forming abilities ( $p < 0.001$ ) supporting the oncogenic role in EOC.

**Conclusion** Our study is the first work to identify an oncogenic role of TMED9 in EOC tissues and cell lines which may provide insights into the application of TMED9 as a novel predictor of clinical outcome and a potential therapeutic target in EOC patients.

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#### OPEN ABDOMINAL VACUUM PACK TECHNIQUE FOR THE MANAGEMENT OF SEVERE ABDOMINAL COMPLICATIONS AFTER CYTOREDUCTIVE SURGERY IN OVARIAN CANCER

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**Introduction/Background** The aim of this study was to evaluate the indications and management of grade III-IV postoperative complications in patients requiring vacuum-assisted open abdomen after debulking surgery for ovarian carcinomatosis.

**Methodology** Retrospective study of prospectively collected data from patients who underwent a cytoreductive surgery by laparotomy for an epithelial ovarian cancer that required post-operative management of an open abdomen. An abdominal vacuum-assisted wound closure (VAWC) was applied in cases of abdominal compartmental syndrome (ACS) or intra-abdominal hypertension, to prevent ACS. The fascia was closed with a suture or a biologic mesh. The primary aim was to achieve primary fascial closure. Secondary outcomes considered included complications of cytoreductive surgery (CRS) and open abdominal wounds (hernia, fistula).

**Results** Two percent of patients who underwent CRS required VAWC during the study's patient inclusion period. VAWC indications included: (i) seven cases of gastro-intestinal perforation, (ii) three necrotic enterocolitis, (iii) two intestinal ischemia, (iv) three anastomotic leakages and (v) four intra-

abdominal hemorrhages. VAWC was used to treat indications (i) to (iv) (which represented 73.7% of cases), to prevent compartmental syndrome. Primary fascia closure was achieved in 100% of cases, in four cases (21.0%) a biologic mesh was used. Median hospital stay was 65 days (range: 18–153). Four patients died during hospitalization, three of these within 30 days of VAWC completion.

**Conclusion** VAWC for managing open abdominal wounds is a reliable technique to treat surgical post-CRS complications in advanced ovarian cancer and reduces the early post-operative mortality in cases presenting with severe complications.

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#### ACID CERAMIDASE (ASAH1) EXPRESSION IS ASSOCIATED WITH IMPROVED PROGRESSION- AND OVERALL SURVIVAL IN HIGH-GRADE SEROUS OVARIAN CANCER PATIENTS

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**Introduction/Background** Despite recent progress in the treatment of epithelial ovarian cancer the cure of this disease remains a challenge. Therefore new treatment options along with new prognostic and predictive markers are urgently needed. The enzyme acid ceramidase (AC) plays a central role in the sphingolipid network which is involved in tumorigenesis and progression. Furthermore AC directed therapies are currently under development. We investigated the expression of AC and its prognostic impact on ovarian cancers.

**Methodology** Patients of the AGO-cohort of the ICON-7 trial were analysed. In this randomized trial patients with advanced EOC received carboplatin+paclitaxel vs. carboplatin+paclitaxel +bevacizumab. Tissue micro arrays (TMAs) were constructed for performing immunohistochemical analysis of AC. The results were correlated with clinico-pathological characteristics and survival data.

**Results** Kaplan-Meier analysis (n=351) revealed that high levels of AC were associated with improved progression-free survival (PFS; 24.12 months [95% confidence interval (CI): 19.36 – 28.86] vs. 16.69 months [95% CI: 14.91 – 18.71],  $p < 0.0001$ ) and overall-survival (OS; 66.83 months [95%CI: -] vs. 44.12 months [95%CI: 37.37 – 50.87],  $p < 0.0001$ ). Subsequently, the prognostic value of AC expression together with clinical factors (i.e. FIGO stage, grading, histological subtype, bevacizumab medication and residual tumour burden after surgery) was further confirmed in multivariate Cox regression analysis in n= 426 patients (PFS: hazard ratio (HR) = 0.69 [95% CI: 0.550 – 0.877],  $p = 0.002$ ; OS: HR = 0.67 [95% CI: 0.504 – 0.881],  $p = 0.004$ ).

**Conclusion** Our data identify high levels of AC expression as a strong favorable prognostic marker in ovarian cancer patients.