Positive pre-debulking ctc status predicts worse surgery outcome in ovarian cancer patients

Abstract Submitter: Annabelle Lobermeyer, Germany*

Co-Authors: Jenna-Sophie Schöllhorn, Paul Nick Rademacher, Maximilian Wankner, Sandra Lenz, Cornelia Coith, Anna Jaeger, Leticia Oliveira-Ferrer, Linn Woelber, Sabine Riethdorf, Barbara Schmalfeldt, Klaus Pantel, Mina Netkova-Heintzen, Katharina Prieske, Simon A. Joosse

*University-medical center Hamburg-Eppendorf

Abstract

Background: Patients with advanced-stage high-grade serous ovarian cancer (HGSOC) generally have poor prognosis due to disease recurrence. Accurate methods for predicting therapy outcome are lacking. Monitoring circulating tumor cells (CTCs) in blood before treatment may improve the clinical management of these patients.

Objective: Evaluation of pre-operative CTCs as suitable predictive marker for surgery outcome in patients with advanced HGSOC.

Methods: 59 women with HGSOC (International Federation of Gynecology and Obstetrics stage III-IV) were recruited. 7.5 ml peripheral blood was investigated for CTCs using the CellSearch System pre-operatively.

Results: 59 HGSOC patients were followed for a median time of 17.8 months (range: 0.29-54.76 months). 26 patients were diagnosed with disease progression or recurrence during this time with a median progression-free survival (PFS) of 14.7 months (range: 0.29-40.41 months). Increased residual tumor was associated with worse PFS (p=0.0041). CTCs were detected in 50.8% of the patients pre-operatively. Presence of ≥2 CTCs was significantly associated with worse PFS (p=0.018), and residual tumor (p=0.012).≥2 CTCs were an independent predictor of PFS, regardless of residual tumor [HR = 2.90, 95% CI: 1.14-7.35, p = 0.025].

Conclusion: Our results show that the presence of pre-surgery CTCs is significantly associated with residual tumor and PFS and may therefore be used in future studies to identify high-risk patients who are poor surgical candidates. A benefit from neoadjuvant chemotherapy in those cases needs further evaluation. Final analysis with clinical parameters will be performed to classify pre-operative CTCs as a reliable, independent predictive marker for the identification of high-risk surgery candidates.

Do you have any conflicts of interest?

No, I do not have a conflict of interest.