

## Accepted Manuscript

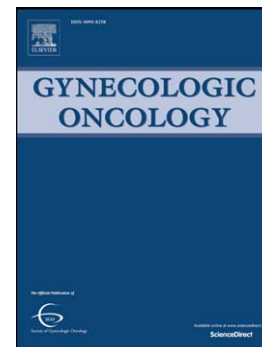
Operability and chemotherapy responsiveness in advanced low-grade serous ovarian cancer. An analysis of the AGO Study Group metadatabase

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**Operability and chemotherapy responsiveness in advanced low-grade serous ovarian cancer. An analysis of the AGO Study Group Metadatabase.**

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## Abstract

**Objective:** Since almost two decades standard 1<sup>st</sup>-line chemotherapy for advanced ovarian cancer (AOC) has been a platinum/taxane combination. More recently, this general strategy has been challenged because different types of AOC may not benefit homogenously. Low-grade serous ovarian cancer (LGSOC) is one of the candidates in whom efficacy of standard chemotherapy should be revised.

**Methods:** This study is an exploratory case control study of the AGO-metadatabase of 4 randomized phase III trials with first-line platinum combination chemotherapy without any targeted therapy. Patients with advanced FIGO IIIB-IV low-grade serous ovarian cancer were included and compared with control cases having high-grade serous AOC.

**Results:** Out of 5,114 patients in this AGO database 145 (2.8%) had LGSOC and of those thirty-nine (24.1%) had suboptimal debulking with post-operative residual tumor > 1cm, thus being eligible for response evaluation. An objective response was observed in only 10 patients and this 23.1% response rate (RR) was significantly lower compared to 90.1% RR in the control cohort of high-grade serous ovarian cancer (HGSOC) ( $p < 0.001$ ). Both, LGSOC and HGSOC patients who underwent complete cytoreduction had significantly better progression free survival (PFS) and overall survival (OS) in comparison to those with residuals after primary surgery, accordingly ( $p < 0.001$ ).

**Conclusions:** Our observation indicates that low-grade serous cancer is not as responsive to platinum-taxane-based chemotherapy as high-grade serous AOC. In contrast, surgical debulking showed a similar impact on outcome in both types of AOC thus indicating different roles for both standard treatment modalities. Systemic treatment of low grade serous AOC urgently warrants further investigations.

**Key words:** low-grade serous ovarian cancer, high-grade serous ovarian cancer, platinum chemotherapy, objective response

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