

## **Moving beyond “complete surgical resection” and “optimal”: Is low-volume residual disease another option?**

**Objectives:** To examine the effect of residual disease classification and residual disease volume on survival, among patients with advanced-stage epithelial ovarian/fallopian tube/primary peritoneal carcinoma after primary debulking surgery (PDS) or neoadjuvant chemotherapy with interval debulking surgery (NACT-IDS).

**Methods:** Medical records of patients with FIGO stage IIIC and IV epithelial ovarian/fallopian tube/primary peritoneal carcinoma, undergoing PDS or NACT-IDS, between January 2010 and July 2015 were reviewed. Patient demographics, operative characteristics, residual disease, anatomic site of residual disease and outcome data were collected. Among patients with <1cm of residual disease, the number of anatomic sites (single location vs. multiple locations) with residual disease was utilized as a surrogate for volume of residual disease. The effect of residual disease on survival was evaluated.

**Results:** Of 510 patients, 240 (47.1%) underwent PDS and 270 (52.9%) underwent NACT-IDS. Among patients undergoing PDS, 94 (39.2%) had complete surgical resection (R0), 41 (17.1%) had <1cm of residual disease confined to a single location (<1cm-SL), 67 (27.9%) had <1cm of residual disease in multiple locations (<1cm-ML) and 38 (15.8%) were sub-optimally (SO) debulked. Among patients undergoing NACT-IDS, 173 (64.1%) were R0, 34 (12.6%) were <1cm-SL, 47 (17.4%) were <1cm-ML and 16 (5.9%) were SO debulked. Among patients with <1cm residual disease, most were <1cm-ML and this did not differ when comparing those that underwent PDS to NACT-IDS (62% vs. 58%). Among <1cm-SL patients, the most common site of residual disease was the diaphragm and this did not differ when comparing PDS to NACT-IDS (31.7% vs. 41.2%). Among patients undergoing PDS, median OS for R0, <1cm-SL, <1cm-ML and SO debulked were: Not yet reached, 61, 42 and 44 months, respectively (p=0.001). Among patients undergoing NACT-IDS, median OS for R0, <1cm-SL, <1cm-ML and SO debulked were: 53, 33, 22 and 28 months, respectively (p<0.001).

**Conclusions:** After cytoreductive surgery R0 and <1cm-SL patients have the best prognosis and this effect is the greatest after PDS. In contrast, despite being considered “optimally debulked”, <1cm-ML patients have a survival similar to those who are SO debulked.