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### ROBOTIC INTERVAL DEBULKING SURGERY FOR ADVANCED EPITHELIAL OVARIAN CANCER. CURRENT CHALLENGE OR FUTURE DIRECTION? A SYSTEMATIC REVIEW

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10.1136/ijgc-2020-ESGO.150

**Introduction/Background** Safety and efficacy of robotic interval debulking surgery (IDS) after treatment with neoadjuvant chemotherapy (NACT) in advanced epithelial ovarian cancer (EOC) was evaluated.

**Methodology** A systematic review of the literature was conducted.

**Results** We evaluated 102 patients in total. Perioperative outcomes were estimated as following: mean estimated blood loss ranged from 106.9 to 262.5 ml (mean  $\pm$  SD: 168  $\pm$  68 ml), mean operative time ranged from 164 to 312 min (mean  $\pm$  SD: 246  $\pm$  61 min), mean hospital stay was 2.4 days and post-operative blood transfusion rate was 19% (n=19/98). Regarding the oncological outcomes, 75 patients received a R0 resection (complete cytoreduction), while by 21 women there was a residual disease  $\leq$  1 cm. Regarding complications, no intraoperative and 6 postoperative (14,6%) complications were recorded, with a 30-d mortality rate of 9.2% (n=9/98), whereas the laparotomy conversion rate was 9.2% (9/98) as well, mostly in the terms of achieving complete cytoreduction. During a median follow up period of 2 to 86 months (median 25.3 months), the median overall survival from 39.7 to 47.2 months and the progression free survival varied from 20.6 to 21.2 months. Recurrent disease was reported in 60 women (61%). Our results are in harmony (p=0.02) with those of the one study that presented significantly improved OS and PFS in the robotic arm compared to laparotomy (47.2 vs 37.8 vs 37.9, p=0.004 for OS and 20.6 vs 13.9 vs 11.9, p=0.005 for PFS, respectively).

**Conclusion** Robotic interval debulking surgery is a safe and efficient regarding the management of advanced ovarian cancer patients who receive neoadjuvant chemotherapy. The patients that are more eligible and could benefit from this treatment strategy should be specified through larger, double-blind randomized control trials.

**Disclosures** All authors declare no conflict of interest.

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### PERITONEAL CANCER INDEX (PCI) AS A PREDICTOR OF COMPLETENESS OF CYTOREDUCTION AT PRIMARY AND INTERVAL DEBULKING SURGERY IN ADVANCED OVARIAN CANCER

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10.1136/ijgc-2020-ESGO.151

**Background** The completeness of surgical cytoreduction is the most important prognostic factor in advanced epithelial ovarian cancer (AOC). The FIGO staging system for ovarian

cancer does not accurately account for disease distribution and tumour burden within the peritoneal cavity.

The peritoneal cancer index (PCI) quantitatively assesses cancer distribution and tumour burden in the peritoneal cavity in 13 abdominopelvic regions. It does not, however, include retroperitoneal nodal disease. First described by Sugarbaker, it was widely used in colorectal cancer and peritoneal mesothelioma. More recently, the PCI has been used to quantify tumour burden in patients with AOC. It may be a suitable tool to predict the completeness of cytoreduction at primary and interval debulking surgery. The aim of this study was to analyse the prognostic value and clinical correlations of PCI in patients with AOC.

**Methodology** We evaluated the correlation between PCI and cytoreductive score (GOG-score) in patients with AOC who were treated with primary and interval debulking surgery at a UK tertiary cancer centre. Data for 36 consecutive patients with AOC were collected prospectively from January to September 2020. An Ovarian Cancer Reporting Tool was developed according to the ESGO Ovarian Cancer Surgery Guideline and the Dutch Hyperthermic Intraperitoneal Chemotherapy Protocol. Intra-operative PCI scores prior to and after resection were calculated using the report sheet, intra-operative findings and surgical notes. The scores were correlated to completeness of cytoreduction according to the GOG-score (1 = no macroscopic residual disease, 2 = 0.1–1 cm residual, 3 = 1–2 cm residual disease, 4  $\geq$  2 cm residual disease).

**Results** Of the 36 patients, 25% (9/36) were staged FIGO IIB, 33.3% (12/36) were FIGO IIIC and 41.6% (15/36) were FIGO IV. Twenty-five percent (9/36) underwent primary debulking surgery and 75% (27/36) underwent interval debulking surgery after neoadjuvant chemotherapy. Thirty-one (86%) patients had high grade serous histology and five (14%) low grade serous carcinoma. Table 1 illustrates the distribution of intra-operative PCI scores and completeness of cytoreduction.

Twenty-three (64%) patients had a PCI of 0 to 15. In 22 (96%) complete cytoreduction (GOG-1) was achieved and in 1 (4%) there was 0.1–1 cm residual disease (GOG-2). Four patients had a PCI of 16 to 20 with GOG-1 achieved in 3 (75%) and GOG-2 in 1 (25%).

Nine patients had a PCI greater than 20 and rates of cytoreduction were: GOG-1 = 4 (44%), GOG-2 = 2 (22%), GOG-3 = 2 (22%) and GOG-4 = 1 (11%).

**Conclusion** PCI is a reproducible and objective tool for assessing the likelihood of complete resectability at primary and interval debulking surgery for AOC. A PCI of 0–20 was

**Abstract 557 Table 1** Intra-operative PCI score and maximum diameter of residual disease

Intra-Op PCI	n=36	GOG-1	GOG-2	GOG-3	GOG-4
0	1	1			
1–5	5	5			
6–10	9	9			
11–15	8	7	1		
16–20	4	3	1		
>20	9	4	2	2	1

associated with a high likelihood of complete cytoreduction (93%) compared to a PCI of greater than 20, where complete cytoreduction was achieved in the minority (44%). Assessment and validation of PCI by radiology, laparoscopy and laparotomy may help in the selection of patients for cytoreductive surgery, neoadjuvant chemotherapy or chemotherapy alone.

Disclosures None.

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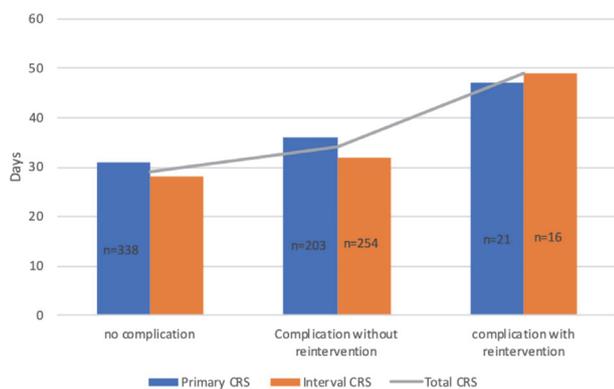
### POSTOPERATIVE OUTCOMES OF PRIMARY AND INTERVAL CYTOREDUCTIVE SURGERY FOR ADVANCED OVARIAN CANCER REGISTERED IN THE DUTCH GYNECOLOGICAL ONCOLOGY AUDIT (DGOA)

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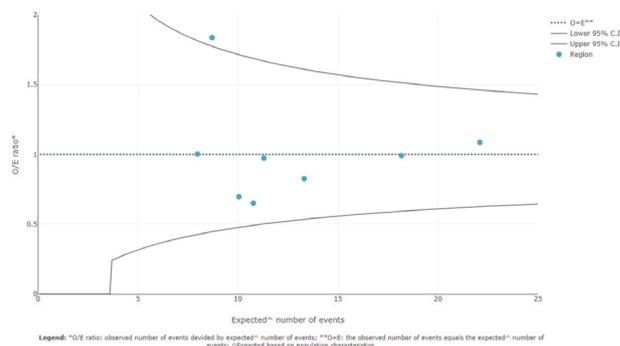
10.1136/ijgc-2020-ESGO.152

**Introduction/Background** The challenge when performing cytoreductive surgery (CRS) for advanced ovarian cancer is to balance the benefits (obtaining complete CRS) and risks (perioperative complications). The aim of this study was to report short term postoperative morbidity and mortality in relation to surgical outcome in patients undergoing primary cytoreductive surgery (PCS) and/or interval cytoreductive (ICS) surgery in 8 gynaeco-oncological regions in the Netherlands.

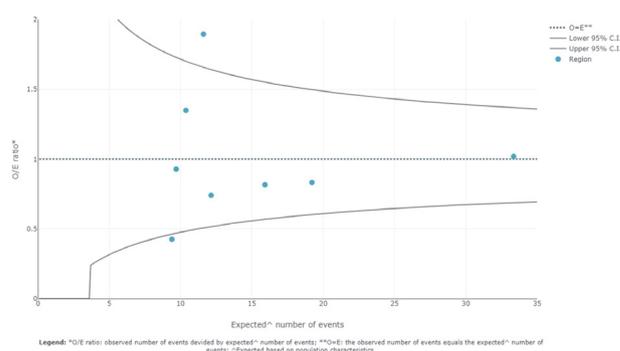
**Methodology** Data from the prospective Dutch Gynecological Oncology Audit (DGOA) data base were used for this retrospective analysis with population-based data. All patients with advanced ovarian cancer (FIGO IIB-V) undergoing PCS or ICS between January 1st, 2015- December 31st, 2018 were included. Primary outcome was the frequency of postoperative complications. In addition, median time to adjuvant chemotherapy was shown in relation to CRS outcomes and complication severity. Hospitals were clustered in 8 regions consisting of a gynaeco-oncological center and its referring hospitals. Complications with Clavien Dindo  $\geq 3$  were analyzed per region and casemix corrected.



**Abstract 565 Figure 2c** Median waiting time for adjuvant chemotherapy after complete cytoreduction (days)



**Abstract 565 Figure 3a** Casemix corrected funnelplot for patients with Clavien Dindo  $>3$  in Primary CRS for 8 regions in the Netherlands



**Abstract 565 Figure 3b** Casemix corrected funnelplot for patients with Clavien Dindo  $>3$  in Interval CRS for 8 regions in the Netherlands

**Results** A total of 2382 patients met the inclusion criteria corresponding to 2458 surgical procedures. 1027 patients underwent PCS and 1355 patients underwent ICS, a third group contained patients with both PCS and ICS ( $n=76$ ). Complications with re-intervention were significantly higher in PCS compared to ICS (5.7% vs. 3.6% respectively,  $p=0.048$ ), but complete CRS was achieved more often in PCS compared to ICS (69.7% vs 62.1% respectively  $<0.001$ ). Clavien Dindo  $\geq 3$ , ICU stay, and 30-day mortality were not statistically different between PCS and ICS. Time to adjuvant chemotherapy was the longest in patients with complete CRS and a complication with re-intervention: 47 days (figure 2c). Regional variation for Clavien Dindo  $\geq 3$  was apparent with 1 region as outlier in PCS and ICS (figure 3a and 3b).

**Conclusion** Complete PCS is more often achieved, but there are more complications with re-intervention resulting in more time to start with adjuvant chemotherapy. This exceeds the advised maximum of 42 days. This finding underlines the importance of maintaining a balance in aggressiveness of surgery and result of CRS in relation to survival. In addition, complications in the Netherlands show regional hospital variation after casemix correction.

In the future these outcomes should be discussed to minimize complications and therefore improve quality of care within the nation.

Disclosures None.