Poster 49: Minimally invasive approach to hyperthermic intraperitoneal chemotherapy at the time of interval debulking surgery in patients with ovarian cancer

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Topic
Ovarian

Objectives
Hyperthermic intraperitoneal chemotherapy (HIPEC) at the time of interval debulking surgery (IDS) improves survival in patients with ovarian cancer. Generally, IDS is performed via a vertical midline exploratory laparotomy. As IDS for ovarian cancer via the minimally invasive surgical (MIS) approach is becoming more frequent, there will also be a need to perform HIPEC via laparoscopic incisions. Here, we aim to describe peri-operative outcomes of patients undergoing HIPEC at the time of MIS IDS.

Methods
Prospective case series of ovarian cancer patients with excellent radiologic and laboratory response to neo-adjuvant chemotherapy who underwent minimally invasive IDS. HIPEC was administered following tumor resection via tubing designed to fit laparoscopic incisions. Patient characteristics and peri-operative outcomes were recorded.

Results
Four patients were included; 3 underwent robotic-assisted and 1 underwent laparoscopic debulking. Mean age at diagnosis was 69.5 ± 1.0 years. Three patients had a favorable KELIM score (>1) prior to IDS; the remaining patient with an unfavorable KELIM score (< 1) had an 85% reduction in CA-125 during neo-adjuvant chemotherapy. Complete cytoreduction was achieved in all patients. Mean duration of surgery was 317 ± 43 min, with average estimated blood loss of 38 ± 14 mL. Median amount of intraoperative fluid resuscitation was 3,000 mL (range 2,000-8,000 mL). There were no intra-operative complications. Post-operatively, none of the patients were admitted to the ICU. On average, patients had return of bowel function on post-operative day 1.5 ± 0.6 and were discharged on post-operative day 2.5 ± 1.3. One patient had Clavien-Dindo grade 2 complication; patient received 8,000 mL of intraoperative fluids, requiring subsequent aggressive diuresis and oxygen supplementation on discharge. No readmissions occurred within the first 30 days after surgery; one patient was re-admitted within 90 days due to chemotherapy complications.

Conclusions
Minimally invasive approach to IDS in select patients with ovarian cancer is becoming more frequently utilized. Peri-operative outcomes in our small cohort of patients suggest that HIPEC at the time of MIS is feasible and safe. Special considerations include patient selection, use of specialized tubing for use of laparoscopic incisions, and careful monitoring of intraoperative fluids.