

## Session E. Gastrointestinal (colorectal) cancer

### E20 Adjuvant hyperthermic intraperitoneal chemotherapy (HIPEC) in patients with colorectal cancer at high risk for the development of peritoneal metastases. A matched case-control study

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**Background:** Prognosis of colorectal cancer (CRC) peritoneal metastases (PM) is maximally improved when cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (HIPEC) are performed in early-stage patients. Despite the strong rationale, adjuvant HIPEC remains controversial. This matched case-control study assessed adjuvant HIPEC in CRC patients at high risk for metachronous PM.

**Methods:** From 2006 to 2013, twenty CRC patients with no systemic metastases were prospectively selected to undergo curative surgery, adjuvant HIPEC, and systemic chemotherapy (oxaliplatin/irinotecan-containing ±biologics), based on primary tumor-associated criteria: resected synchronous ovarian (n = 2), or minimal peritoneal (n = 5) metastases, primary directly invading other organs (n = 4), or penetrating visceral peritoneum (n = 9). Forty matched (1:2) patients undergoing standard treatments and no HIPEC during the same period in our center were retrospectively included in control group. Cumulative PM incidence was calculated in a competing-risks framework.

**Results:** Groups were comparable for all characteristics. Median follow-up was 41.2 months (95% confidence interval (CI) = 29.4-52.9). Five-year cumulative PM incidence was 5.0% in HIPEC group, and 42.5% in control group (P = 0.004). Five-year overall and progression-free survival were significantly higher in HIPEC group, than in control group: 81.3% vs. 60.1% (P = 0.04), and 70.0% vs. 8.3% (P = 0.01). Severe morbidity occurred in 4/20 and 11/40 patients (P = 0.75), respectively. No operative death occurred. At multivariate analysis, HIPEC independently correlated to lower PM cumulative incidence (hazard ratio [HR] = 0.04; 95%CI = 0.01-0.31), higher overall survival (HR = 0.28; 95% CI = 0.08-1.03), and higher progression-free survival (HR = 0.31; 95%CI = 0.11-0.85).

**Conclusion:** Adjuvant HIPEC may benefit CRC patients at high risk for PM development. These results warrant confirmation in a phase-III trial.