#### **CO27**

LONG TERM OUTCOMES OF LAPAROSCOPIC HIPEC IN LOW GRADE PSEUDOMYXOMA AND MULTICYSTIC MESOTHELIOMA

F. Mercier, J. Guedj, M. Alyami, D. Vaudoyer, V. Kepenekian, P. Rousset, G. Passot, O. Glehen

**Hospices Civils Lyon-Lyon Sud Hospital - Pierre Benite (France)** 

## **Objectives**

Cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) provide long-term survival for low-grade pseudomyxoma peritonei (Low-grade PMP) and multicystic peritoneal mesothelioma (MM). Feasibility of laparoscopic CRS and HIPEC has already been reported for selected patients but data regarding long terms outcomes are missing. This study aimed to report the oncologic long-term outcome of low-grade PMP and MM treated with laparoscopic CRS and HIPEC.

#### **Methods**

From our prospectively maintained HIPEC database; all patients who underwent laparoscopic CRS and HIPEC with curative intent for low-grade PMP and MM in one expert center between March 2009 and June 2017 were analyzed. Selection criteria for laparoscopic approach were low-grade PMP or MM confirmed by biopsy prior to CRS and HIPEC, ASA 2, age < 75 years, no extraperitoneal disease confirmed with thoracic and abdominopelvic CT scan, Peritoneal Cancer Index <10 assessed by a peritoneal MRI reviewed by an experienced radiologist and no major previous abdominal surgery.

### Results

Between March 2009 and June 2017, 32 patients underwent laparoscopic CRS and HIPEC. Median age was 44.9 years (17.13–71.4). There were 21 and 11 patients with PMP and MM, respectively. Median PCI was 2.5 (0–9). CC-0 was achieved for every patients. Median follow-up was 33.3 months (95% CI: 19.3–41.6), all patients are alive, and 2 patients were diagnosed with a peritoneal recurrence after 18 and 29 months, respectively. The first patient was treated for a low-grade PMP on the basis of the biopsy but the pathology analysis after surgery classified the tumor as high-grade. The second one was operated for a low-grade PMP at the first surgery and the disease transformed to high-grade at recurrence.

## Conclusion

For strictly selected patients, (low grade PMP or multicystic mesothelioma with PCI < 10 and excellent performance status) laparoscopic CRS-HIPEC provides promising oncologic long-term outcomes. The results should be confirmed with extended follow up to detect late recurrence which are known in PMP.

**CO28** 

DOES HIPEC WORTH IN INCOMPLETELY CYTOREDUCED DIFFUSE MALIGNANT PERITONEAL MESOTHELIOMA? A PROPENSITY SCORE ANALYSIS OF THE PSOGI REGISTRY

S. Kusamura<sup>1</sup>, F. Barretta<sup>2</sup>, D. Baratti<sup>1</sup>, P.H. Sugarbaker<sup>3</sup>, E.A. Levine<sup>4</sup>, O. Glehen<sup>5</sup>, D.L. Morris<sup>6</sup>, M. De Simone<sup>7</sup>, D. Goere<sup>8</sup>, M.J. Brendan<sup>9</sup>, Y. Yonemura<sup>10</sup>, L. Villeneuve<sup>11</sup>, M. Deraco<sup>1</sup>

<sup>1</sup>Fondazione IRCCS Istituto Nazionale Tumori dei Tumori di Milano, PSM Unit - Milano (Italy), <sup>2</sup>Fondazione IRCCS Istituto Nazionale Tumori dei Tumori di Milano, Clinical Epidemiology and Trial Organization Unit - Milano (Italy), <sup>3</sup>Washington Cancer Institute, Washington Hospital Center, 106 Irving Street, NW, Suite 3900, Washington, DC 20010, USA. - Milano (Italy), <sup>4</sup>Surgical Oncology Service, Wake Forest University Baptist Medical Center, Winston-Salem, NC, USA. - Winston-Salem (United States), <sup>5</sup>Department of Digestive Surgery, Centre Hospitalo-Universitaire Lyon Sud, Hospices Civils de Lyon, Pierre Bénite Cedex - Lyon (France), <sup>6</sup>Hepatobiliary and Surgical Oncology Unit, University of New South Wales Department of Surgery, St George Hospital, NSW 2217 - Sydney (Australia), <sup>7</sup>Department of Surgical Oncology IRCC Fondazione del Piemonte per l'Oncologia (FPO) Candiolo - Torino - Torino (Italy), <sup>8</sup>Department of Surgical Oncology, Institut Gustave Roussy, Cancer Center, - Villejuif (France), <sup>9</sup>Basingstoke and North Hampshire NHS Foundation Trus - Basingstoke (United Kingdom), <sup>10</sup>NPO to Support Peritoneal Surface Malignancy Treatment - Kishiwada (Japan), <sup>11</sup>RENAPE - Lyon (France)

## **Objectives**

Complete cytoreduction has been regarded as an absolute requirement for the success of HIPEC based on the experimental evidence showing the limited tissue uptake of drugs administered locoregionally. However, the lack of HIPEC role in patients with gross residual disease has not been addressed by a controlled clinical study. We aimed to evaluate the role of HIPEC in patients with Diffuse Malignant Peritoneal Mesothelioma (DMPM) submitted to incomplete surgical cytoreduction.

## **Methods**

565 DMPM patients with complete data for main prognostic factors were selected from PSOGI peritoneal mesothelioma registry. These factors were age, peritoneal cancer index (PCI), rates of incomplete cytoreduction (CC2 and CC3), and histological subtype (epithelioid vs. biphasic/sarcomatoid). We built multivariable logistic model containing the above-mentioned prognostic factors and EPIC treatment to estimate the propensity score (PS) for HIPEC treatment. Inverse probability treatment weighting (IPTW) based on PS was used to balance the comparisons between no-HIPEC group (38 pts) and HIPEC group (140 pts). The standardized mean difference (SMD) was used to evaluate the balance of prognostic factors distribution between the groups.

The outcomes of interest were overall survival (OS) and severe morbidity (NCI-CTCAEv3). Differences in OS and odds ratio (OR) of severe morbidity were assessed by means of IPTW weighted log-rank tests and logistic regression models.

## Results

The SMD of all prognostic factors and EPIC treatment between the two groups did not overcome the threshold level of 0.1, indicating a very good balance. The HIPEC was not statistically associated with a higher risk of severe morbidity (weighted OR: 0.77; 95% CI: 0.36–1.61). The weighted 5-year OS (95% CI) of no-HIPEC group was 14% (4%–48%) compared with 15% (5%–39%) in HIPEC group (weighted log-rank p: 0.537).

## Conclusion

HIPEC treatment is not associated to an increased of the risk of severe morbidity, and neither with improved OS in incompletely cytoreduced cases.

#### **CO29**

PALLIATIVE CYTOREDUCTIVE SURGERY WITH HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY (CRS/HIPEC) PROVIDES DURABLE DISEASE AND ASCITES CONTROL FOR PATIENTS WITH APPENDICEAL ADENOCARCINOMA WITH EXTENSIVE PERITONEAL METASTASES

J. Lindberg<sup>1</sup>, S. Rafeeq<sup>1</sup>, A. Khazi<sup>1</sup>, P. Kanaby<sup>2</sup>, O. Shayeb<sup>1</sup>, J. Al Khafaji<sup>3</sup>, K. Beaty<sup>1</sup>, P. Mansfield<sup>1</sup>, R. Royal<sup>1</sup>, K. Fournier<sup>1</sup>

<sup>1</sup>UT MD Anderson Cancer Center Department of Surgical Oncology - Houston (United States), <sup>2</sup>Touro University - Vallejo (United States), <sup>3</sup>University of Nevada Reno School of Medicine - Reno (United States)

## **Objectives**

Appendiceal adenocarcinoma with extensive peritoneal metastasis (PM) not amenable to complete resection is associated with expanding mucinous implants and malignant ascites that are difficult to manage and negatively impact quality of life. CRS/HIPEC provides durable ascites control for patients with resectable disease, however, its efficacy and safety in the palliative setting are not well established.

## **Methods**

A retrospective analysis of a prospectively maintained database was conducted of all patients who underwent CRS for appendiceal adenocarcinoma with PM from January 1st 2004 to July 31st 2017 at MD Anderson Cancer Center. Clinicopathologic characteristics, operative details, survival outcomes, and complication data were reviewed for all patients who underwent an incomplete cytoreduction (completeness of cytoreduction score  $\geq$  2).

## Results

Among 429 patients with metastatic appendiceal adenocarcinoma treated with CRS, 44 had an incomplete cytoreduction. Of this group, 28 (64%) were treated with palliative CRS/HIPEC for ascites control. These patients had a mean peritoneal carcinomatosis index of 31.7 and a mean volume of ascites of 3.7 liters. There were 18 (64%) patients with well, 8 (29%) with moderate, and 2 (7%) with poorly differentiated tumors. Recurrent ascites was radiographically apparent in 14 (50%) patients with a median time to recurrence of 8 months. Clinically significant ascites recurred in 6 (21%) patients at a median of 12.5 months following surgery. One of 28 patients required postoperative paracentesis for ascites control, while 17 (61%) received additional chemotherapy at a median of 9 months after surgery. Post-operative complications were observed in 21 (75%) patients with only 2 (7%) experiencing a Clavien-Dindo grade III/IV complication. Median hospital length of stay was 12.5 days and 13 (46%) patients required re-admission within 90 days of surgery. Ninety day mortality and disease specific mortality were 4% (1 patient) and 36% (10 patients), respectively, with a median follow-up of 22.5 months. Median survival for all patients following incomplete CRS /HIPEC for ascites control was 79 months.

## Conclusion

Hyperthermic intraperitoneal chemotherapy should be considered for select patients with advanced appendiceal adenocarcinoma and refractory ascites. Durable symptom palliation and prolonged survival is possible at an acceptable toxicity profile for those patients where complete cytoreduction is not attainable.

**V5** 

#### LAPAROSCOPIC HIPEC VIA SINGLE APPROACH

## F. Dumont, E. Thibaudeau (France)

This video presents a HIPEC procedure by a single port laparoscopy. The single port approach has not yet been described for HIPEC.

#### **V6**

LAPAROSCOPIC CYTOREDUCTIVE SURGERY WITH HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY (CRS/HIPEC) FOR PERFORATED LOW GRADE APPENDICEAL MUCINOUS NEOPLASM (LAMN 2)

## E. Parkin, Ms. Wilson, St. O'Dwyer, A.G. Renehan, C. Selvasekar, O. Aziz (UK)

Risk reducing cytoreductive surgery and HIPEC for a lamn 2 lesion. Video shows initial laparoscopy, mobilisation of rif structures, wiping of peritoneal mucin, mobilisation of liver back to normal diaphragm to treat serosal surface disease, cholecystectomy, excision of falciform ligament, greater and lesser omentectomies and port placement for HIPEC. With an extra epigastric port, we are able to divide adhesions between liver and diaphragm. We demonstrate different techniques for getting in to the correct plane for the greater omentectomy