INTRODUCTION

Peritoneal Mesothelioma & Pseudomyxoma Peritonei

Introduction
Treatment CRS HIPEC
Peritotoneal Mesothelioma
Pseudomyxoma Peritonei
Results Mesothelioma
Results Pseudomyxoma
Conclusion

Marcello Deraco
Director Peritoneal Surface Malignancy Unit
Common Features:

• Rare neoplasms;
• Peritoneal dissemination;
• Not responsive to sCT;
• Treated with Cytoreductive Surgery and Hyperthermic Intra Peritoneal Chemotherapy (HIPEC)
Peritoneal Mesothelioma & Pseudomyxoma Peritonei

Introduction

Treatment
CRS HIPEC

Peritotoneal Mesothelioma

Pseudomyxoma Peritonei

Results
Mesothelioma

Results
Pseudomyxoma

Conclusion

Cytoreductive Surgery and HIPEC

Marcello Deraco Director Peritoneal Surface Malignancy Unit
The Concept of Cytoreductive Surgery with Peritoneectomy Procedures

- Means a complete removal of all macroscopic tumor in the peritoneal cavity;
- It could require Peritoneectomy Procedures eventually associated with intestinal and/or organ resection

<table>
<thead>
<tr>
<th>Abdominal regions</th>
<th>Peritonectomies</th>
<th>Visceral resections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right upper</td>
<td>Right sub-phrenic peritoneectomy, Glisson’s capsule dissection</td>
<td></td>
</tr>
<tr>
<td>Left upper</td>
<td>Left sub-phrenic peritoneectomy</td>
<td></td>
</tr>
<tr>
<td>Antero-lateral</td>
<td>Stripping of paracolic gutters, Greater omentectomy</td>
<td>Splenectomy, appendectomy, right colectomy</td>
</tr>
<tr>
<td>Sub-hepatic</td>
<td>Lesser omentectomy, stripping of the omental bursa</td>
<td>Gastric antrectomy, cholecystectomy</td>
</tr>
<tr>
<td>Pelvis</td>
<td>Pelvic peritoneectomy</td>
<td>Sigmoidectomy, hysterectomy, bilateral adnexectomy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total gastrectomy</td>
</tr>
</tbody>
</table>
Surgical Technique of Parietal and Visceral Peritoneectomy for Peritoneal Surface Malignancies

MARCELLO DERACO, MD,* DARIO BARATTI, MD, SHIGEKI KUSAMURA, MD, PhD, BARBARA LATERZA, MD, AND MARIA ROSARIA BALESTRA, MD
Department of Surgery, National Cancer Institute of Milan, Milan, Italy

MESENTERECTOMY: The 6th Peritoneectomy Procedure
Intraperitoneal Administration

**Rationale:**

- High Chemotherapeutic Drug Concentration (P/P Ratio Area Under Curve):
- Direct effect of heat on Tumor;
- Sinergistic effect of heat and chemotherapy

**HIPEC (Hyperthermic Intra Peritoneal Chemotherapy)**

**DRUGS:**
- MMC: 25+25 mg > Pseudomyxoma
- CDDP 40mg/l + DX 15 mg/l > Mesothelioma

**Temperature**: 42.5 °

**Mean flow**: 700ml/min;

**Duration**: 60-90 min
Patients: 839

- Pseudomyxoma peritonei: 286
- Peritoneal mesothelioma: 36
- Colorectal Cancer: 35
- Ovarian Cancer: 118
- Sarcomatosis: 38
- Gastric cancer: 247
- Serous papillary peritoneal carcinoma: 61
- Other: 18

Mean Duration: 10 hours;
ICU Stay: 2 days;
Mean hospital Stay: 23 days;
Mortality: 2%;
Morbidity: 35%;
Grade 3 Morbidity: 10%;
Morbidity: 10%;
Mortality: 2%;
ICU Stay: 2 days;
Mean hospital Stay: 23 days;
Morbidity: 35%;
Grade 3 Morbidity: 10%;
Introduction

Treatment
CRS HIPEC

Peritoneal Mesothelioma

Pseudomyxoma Peritonei

Results Mesothelioma

Results Pseudomyxoma

Conclusion

Peritoneal Mesothelioma & Pseudomyxoma Peritonei

PERITONEAL MESOTHELIOMA

Marcello Deraco Director Peritoneal Surface Malignancy Unit
• Aggressive malignancy arising from mesothelial cells within the serosal lining of the peritoneum;

• Characterized by thousands of tumor nodules that may coalesce to form plaques, masses or layers to cover the entire peritoneal surface;

• Present epidemiological, biological and clinical behaviours different from its most know and frequent pleural counterpart as well as a better prognosis;

• Low sensitivity and specificity of the diagnosis explain the misdiagnosed of Peritoneal Mesothelioma as a neoplasm originating from other abdominal organs.
Peritoneal Mesothelioma: Patient Selection

![Graph showing Ki-67 levels](image)

**High MIB-1**

**Low MIB-1**

---

**Immunohistochemical Evaluation of Minichromosome Maintenance Protein 7 (MCM7), Topoisomerase IIα, and Ki-67 in Diffuse Malignant Peritoneal Mesothelioma Patients Using Tissue Microarray**

Marcello Deraco, MD\(^1\), Antonello Cabras, MD\(^2\), Dario Baratti, MD\(^3\), and Shigeki Kusamura, MD, PhD\(^4\)

\(^1\)Peritoneal Surface Malignancy Program, Department of Surgery, Fondazione IRCCS Istituto Nazionale dei Tumori di Milano, Milan, Italy; \(^2\)Department of Pathology, Fondazione IRCCS Istituto Nazionale dei Tumori di Milano, Milan, Italy.

Do not duplicate or distribute without permission from author and ESO.

---

**Ann Surg Oncol**
DOI 10.1245/s10434-015-4498-z
7-30% of all mesotheliomas;

Incidence rates in Italy: 2.6-1.2 / 1.000.000 / y /men-woman;

Peak in Genova Harbor and Casale Monferrato: 5.5/1.000.000 /y (men);

The disease has likely already reached the incidence peak in the USA. On the contrary, in Europe and Australia the peaks is expected during this decade;

58% of PM directly related to past asbestos exposure among men;

Only 20% of women with PM had past asbestos exposure;

Potential other causes: Simian Virus 40 (SV40) and Genetic;

No available screening program
**Imaging:** Provide adequate information on peritoneal extension and metastases

**Tumor Markers:** Moderate increasing of CA125 and Mesothelin;

**Pathology:**
- ✓ Percutaneous Ascite Collection for Citology: Frequently Inadequate;
- ✓ Percutaneous Biopsy: Provide adequate tissue in most cases;
- ✓ Laparoscopy: Provide adequate tissue in almost all cases, disease extension and resectability evaluation.

**Peritoneal Mesothelioma:**
- **WET TYPE**
- **DRY-PAINFUL TYPE**
- **MIXED TYPE**
Peritoneal Mesothelioma: Diagnosis

- **Imaging:** Provide adequate information on peritoneal extent and metastases.

- **Tumor Markers:** Moderate increasing of CA125 and Mesothelin;

- **Pathology:**
  - Percutaneous Ascite Collection for Citology: Frequently Inadequate;
  - Percutaneous Biopsy: Provide adequate tissue in most cases;
  - Laparoscopy: Provide adequate tissue in almost all cases, disease extent and resectability evaluation.

Mesothelin binds CA125
The complex may, play a role in the tumor progression and dissemination in the peritoneal cavity.
**Peritoneal Mesothelioma: Diagnosis**

**Imaging:** Provide adequate information on peritoneal extent and metastases.

**Tumor Markers:** Moderate increasing of CA125 and Mesothelin.

**Pathology:**
- Percutaneous Ascite Collection for Citology: Frequently Inadequate.
- Percutaneous Biopsy: Provide adequate tissue in most cases.
- Laparoscopy: Provide adequate tissue in almost all cases, disease extent and resectability evaluation.

**CA125:**
- Baseline diagnostic sensitivity: 53.3%.
- Statistical Significant correlation with Grade and PCI.
- Significant correlation of baseline with outcomes.

![CA125 Chart](chart.png)

**Mesothelin**
- DMPM: Mean, ng/dl = 7.77
- Controls: Mean, ng/dl = 3.47

**Osteopontin**
- DMPM: Mean, ng/dl = 7.31
- Controls: Mean, ng/dl = 8.65

**Imaging:** Provide adequate information on peritoneal extension and metastases.

**Tumor Markers:** Moderate increasing of CA125 and Mesothelin;

**Pathology:**
- ✓ Percutaneous Ascite Collection for Citology: Frequently Inadequate;
- ✓ Percutaneous Biopsy: Provide adequate tissue in most cases;
- ✓ Laparoscopy: Provide adequate tissue in almost all cases, disease extension and resectability evaluation

<table>
<thead>
<tr>
<th>Lesion size score</th>
<th>cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSS-0</td>
<td>No detectable</td>
</tr>
<tr>
<td>LSS-1</td>
<td>&lt;0.5</td>
</tr>
<tr>
<td>LSS-2</td>
<td>0-5-5</td>
</tr>
<tr>
<td>LSS-3</td>
<td>&gt;5</td>
</tr>
</tbody>
</table>

Do not duplicate or distribute without permission from author and ESO.
LOCALISED

- Benign
  - adenomatoid tumour
  - localized fibrous
- Malignant

DIFFUSE

- Borderline
  - multicystic
  - papillary well-differentiated
- Malignant
  - epithelial
  - biphasic (mixed)
  - sarcomatous
Guidelines for Pathologic Diagnosis of Malignant Mesothelioma
2012 Update of the Consensus Statement from the International Mesothelioma Interest Group

Alya N. Hossain, MD; Thomas Colby, MD; Nelson Cordova, MD; Thomas Krausz, MD; Richard Attanoos, MB, BS; Mary Beth Boseley, MD; Alan C. Buzek, MD; Kelly Ritter, MD; Philip F. Cagle, MD; Lucian K. Chin, MD; Andrew Churg, MD; Sange Divgi, MD, PhD; Demetrio Iannaccone, MD; Francoise Galateau-Salle, MD; Allen Gibbs, MD; Allen Gown, MD; Samuel Hamaoui, MD; Leslie Dick, MD; Alberto M. Marques, MD; Andrew Nicholson, MB, BS; Victor Ruggli, MD; William D. Travis, MD, PhD, Wick, MD

The 2015 World Health Organization Classification Tumors of the Pleura: Advances since the 2004 Classification
Francoise Galateau-Salle, MD,a, b Andrew Churg, MD,c Victor Ruggli, MD,d William D. Travis, MD,e on behalf of the World Health Organization Committee for Tumors of the Pleura

Table 4. Histologic Subtypes and Patterns of Malignant Mesothelioma

<table>
<thead>
<tr>
<th>Subtype</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epithelioid mesothelioma Tubulopapillary</td>
<td>(81%)</td>
</tr>
<tr>
<td>Micropapillary</td>
<td></td>
</tr>
<tr>
<td>Trabecular</td>
<td></td>
</tr>
<tr>
<td>Acinar</td>
<td></td>
</tr>
<tr>
<td>Adenomatoid</td>
<td></td>
</tr>
<tr>
<td>Solid</td>
<td></td>
</tr>
<tr>
<td>Clear cell</td>
<td></td>
</tr>
<tr>
<td>Decidual</td>
<td></td>
</tr>
<tr>
<td>Adenoid cystic</td>
<td></td>
</tr>
<tr>
<td>Signet ring cell</td>
<td></td>
</tr>
<tr>
<td>Small cell</td>
<td></td>
</tr>
<tr>
<td>Rhabdoid</td>
<td></td>
</tr>
<tr>
<td>Pleomorphic</td>
<td></td>
</tr>
<tr>
<td>Sarcomatoid mesothelioma Conventional, spindle cell</td>
<td>(6%)</td>
</tr>
<tr>
<td>Desmoplastic</td>
<td></td>
</tr>
<tr>
<td>Heterologous differentiation (osteosarcomatos, chondrosarcomatos, etc)</td>
<td></td>
</tr>
<tr>
<td>Lymphohistiocytoid (may also be classified as epithelioid) Biphasic/mixed</td>
<td>(13%)</td>
</tr>
</tbody>
</table>

a Subtype must be given in the diagnosis, but histologic pattern, epithelioid or sarcomatoid, may be described in a comment or microscopic description.

Arch Pathol Lab Med

Journal of Thoracic Oncology Vol. 11 No. 2: 142-154
Peritoneal Mesothelioma & Pseudomyxoma Peritonei

Introduction

Treatment

CRS HIPEC

Peritoneal Mesothelioma

Pseudomyxoma Peritonei

Results

Mesothelioma

Results

Pseudomyxoma

Conclusion

PSEUDOMYXOMA PERITONEI

Marcello Deraco Director Peritoneal Surface Malignancy Unit
Pseudomyxoma Peritonei (PMP):

• is a clinical syndrome consisting on the intraperitoneal accumulation of mucinous ascites;

• It most commonly (90-95%) arises from appendiceal neoplasia;

• Incidence: 1-3 cases per million population
Pathology of Appendix Neoplasms Causing PMP

- Low grade appendiceal mucinous neoplasm (LAMN);
- High grade appendiceal mucinous neoplasm (HAMN);
- Mucinous adenocarcinoma: well, moderately, or poorly differentiated;
- Poorly differentiated (mucinous) adenocarcinoma with signet ring cells;
- (Mucinous) signet ring cell carcinoma:
Clinical Surveillance After Macroscopically Complete Surgery for Low-Grade Appendiceal Mucinous Neoplasms (LAMN) with or Without Limited Peritoneal Spread: Long-Term Results in a Prospective Series

Marcello Guaglio, MD¹, Snita Sinukumar, MD¹,², Shigeki Kusamura, MD, PhD¹, Massimo Milione, MD³, Filippo Pietrantonio, MD⁴, Luigi Battaglia, MD¹, Stefano Guadagni, MD⁵, Dario Baratti, MD¹, and Marcello Deraco, MD¹

Total patients: 41
Median follow-up: months (range) 51.1 (9.3–162)
Appendix wall perforation: 21 (51.2%)
Extra-appendiceal dissemination: 24 (56.3%)
Recurrence: 2 (4.9%)

5-year RFS of 95.2%
LAMN AFTER APPENDECTOMY:
• No indication to right-sided hemi-colectomy;
• Indication to CRS and HIPEC in case of cellular mucin

HAMN AFTER APPENDECTOMY:
Not Perforated
• Incert indication to right-sided hemi-colectomy,

Perforated
• Indication to CRS HIPEC + right-sided hemi-colectomy

MUCINOUS ADENOCARCINOMA AFTER APPENDECTOMY:
Not Perforated:
• Indication to right-sided hemi-colectomy

Perforated:
• Indication to CRS+ right-sided hemi-colectomy + HIPEC
Low Grade Pseudomyxoma Peritonei: Diagnosis

• Increasing in size of the abdomen that is soft
• Tumor Markers: Increasing of CA19.9, CEA, CA15.3 and CA125
• Typical redistribution of mucinous ascites at Ctscan with intestinal compartmentalization
High Grade Pseudomyxoma Peritonei: Diagnosis

• Increasing in size of the abdomen that is hard
• Tumor Markers: Increasing of CA19.9, CEA, CA15.3 and CA125
• Typical redistribution of mucinous ascites at Ctscan with Mesentery invasion
• Acellular Mucin;

• **Low-grade** mucinous carcinoma peritonei
  OR
  • Disseminated peritoneal adenomucinosis (DPAM)

• **High-grade** mucinous carcinoma peritonei
  OR
  • Peritoneal mucinous carcinomatosis (PMCA)

• **High-grade** mucinous carcinoma peritonei **with signet ring cells**
  OR
  • Peritoneal mucinous carcinomatosis with signet ring cells (PMCA-S)
Toward the molecular dissection of peritoneal pseudomyxoma

F. Pietrantonio¹*, F. Perrone², A. Mennitto¹, E. M. Gleeson³, M. Milione², E. Tamborini², A. Busico², G. Settanni², R. Berenato¹, M. Caporale¹, F. Morano¹, I. Bossi¹, A. Pellegrinelli², M. Di Bartolomeo¹, F. de Braud¹,⁴, D. Baratti⁵, W. B. Bowne³, S. Kusamura⁵ & M. Deraco⁵

¹Medical Oncology Department, Fondazione IRCCS Istituto Nazionale dei Tumori, Milano, Italy; ²Pathology Department, Fondazione IRCCS Istituto Nazionale dei Tumori, Milano; ³Department of Surgery, Drexel University College of Medicine, Philadelphia, USA; ⁴Oncology Department, University of Milan; ⁵Surgery Department, Fondazione IRCCS Istituto Nazionale dei Tumori, Milano, Italy

- 45 patients with PMP treated with CRS HIPEC;
- Evaluable fresh tumor samples;
- Next-Generations Sequencing (NGS) of 50 gene’s hotspot regions;
- Using the Ion Torrent Personal Genome Machine platform (Life Technologies).

KRAS mutations: 72%

GNAS mutations: 52%,
Peritoneal Mesothelioma & Pseudomyxoma Peritonei

Introduction

Treatment

CRS HIPEC

Peritotoneal Mesothelioma

Pseudomyxoma Peritonei

Results

Mesothelioma

Pseudomyxoma

Conclusion

RESULTS

PERITONEAL MESOTHALIOMA

Marcello Deraco Director Peritoneal Surface Malignancy Unit
Cytoreductive Surgery: Peritoneal Mesothelioma
• Metastatic DMPM
• Disease confined to the peritoneum and not fit for major abdominal surgery
• Recurrence after CRS HIPEC

**Systemic Chemotherapy: Platin + Premetrexed/ Gemcitabine**

• Patients with DMPM confined to the peritoneum fit for major abdominal surgery,

**CRS-HIPEC ± Systemic Chemotherapy (↑Ki67, ↑PCI, N+, CC1)**

**sCT: Platin + Premetrexed/ Gemcitabine**
Cytoreductive Surgery and Hyperthermic Intraperitoneal Chemotherapy for Malignant Peritoneal Mesothelioma: A Systematic Review and Meta-analysis

Joseph H. Helm, MD, John T. Miura, MD, Jason A. Glenn, MD, Rebecca K. Marcus, MD, Gregory Larrieux, MD, Thejus T. Jayakrishnan, MD, Amy E. Donahue, MLIS, T. Clark Gamblin, MD, MS, Kiran K. Turaga, MD, MPH, and Fabian M. Johnston, MD, MHIS

<table>
<thead>
<tr>
<th>Variable</th>
<th>No. of studies</th>
<th>Mortality rate</th>
<th>Expected 1-year survival (%)</th>
<th>Expected 5-year survival (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire cohort</td>
<td>20</td>
<td>0.17 (0, 0.39)</td>
<td>84 (68–100)</td>
<td>42 (14–100)</td>
</tr>
<tr>
<td>EPIC used</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>7</td>
<td>0.16 (0, 0.44)</td>
<td>85 (64–100)</td>
<td>45 (11–100)</td>
</tr>
<tr>
<td>No</td>
<td>13</td>
<td>0.19 (0, 0.55)</td>
<td>83 (58–100)</td>
<td>39 (6–100)</td>
</tr>
<tr>
<td>Chemotherapy agents used</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mitomycin-C only</td>
<td>1</td>
<td>0.24</td>
<td>78</td>
<td>30</td>
</tr>
<tr>
<td>Cisplatin only</td>
<td>3</td>
<td>0.14</td>
<td>87</td>
<td>49</td>
</tr>
<tr>
<td>Doxorubicin + cisplatin</td>
<td>3</td>
<td>0.23</td>
<td>79</td>
<td>32</td>
</tr>
<tr>
<td>Docetaxel + cisplatin</td>
<td>1</td>
<td>0.35</td>
<td>70</td>
<td>17</td>
</tr>
<tr>
<td>Drug combinations including doxorubicin, mitomycin-C, cisplatin</td>
<td>11</td>
<td>0.16</td>
<td>85</td>
<td>45</td>
</tr>
<tr>
<td>Number of patients in a study</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;100</td>
<td>17</td>
<td>0.20</td>
<td>82</td>
<td>37</td>
</tr>
<tr>
<td>&gt;100</td>
<td>3</td>
<td>0.15</td>
<td>86</td>
<td>47</td>
</tr>
<tr>
<td>Median PCI score reported</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;19</td>
<td>4</td>
<td>0.16</td>
<td>85</td>
<td>45</td>
</tr>
<tr>
<td>&gt;19</td>
<td>16</td>
<td>0.17</td>
<td>84</td>
<td>42</td>
</tr>
<tr>
<td>Median no. of patients undergoing complete cytoreduction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;50 %</td>
<td>6</td>
<td>0.18</td>
<td>84</td>
<td>41</td>
</tr>
<tr>
<td>≥50 %</td>
<td>14</td>
<td>0.16</td>
<td>85</td>
<td>45</td>
</tr>
</tbody>
</table>
The Role of Ki-67 and Pre-cytoreduction Parameters in Selecting Diffuse Malignant Peritoneal Mesothelioma (DMPM) Patients for Cytoreductive Surgery (CRS) and Hyperthermic Intraperitoneal Chemotherapy (HIPEC)

Shigeki Kusamura, MD, PhD¹, Pilar Adriana Torres Mesa, MD¹-², Antonello Cabras, MD³, Dario Baratti, MD¹, and Marcello Deraco, MD¹

Peritoneal Mesothelioma: Patient Selection

Conditional inference tree model. Preoperative risk stratification score (PreRSS)

Node 1
Ki67
P < 0.001
≤ 9%
> 9%

Node 2 (n=67)

Node 3
PCI
P = 0.002

Node 4 (n=15)
≤ 17
> 17

Node 5 (n=32)

Median OS: 86.6 mts
Median OS: 63.2 mts
Median OS: 10.3 months
Is Cytoreductive Surgery with Hyperthermic Intraperitoneal Chemotherapy Justified for Biphasic Variants of Peritoneal Mesothelioma? Outcomes from the Peritoneal Surface Oncology Group International Registry

Konstantinos I. Votanopoulos, MD, PhD, FACS\(^1,2\), Paul Sugarbaker, MD\(^1,3\), Marcello Deraco, MD\(^1,4\), David Morris, MD\(^1,5\), Olivier Glehen, MD\(^1,6\), Dominique Elias, MD\(^1,7\), Michele De Simone, MD\(^1,8\), Manuela Robella, MD\(^1,9\), Bruno Heyd, MD\(^1,10\), Shigeki Kusamura, MD\(^1,11\), Dario Baratti, MD\(^1,12\), Konstantinos Chouliras, MD\(^1,12\), Greg Russell, MS\(^1,12\), Perry Shen, MD\(^1,12\), Edward A. Levine, MD\(^1,12\), and RENAPE Working Group

**DMPM Int. Registry:**
- Total: 1165 pts CRS/HIPEC
- Procedures with CC-0/1: 484 (41.5%)
  - ✓ Epithelioid: 450 (93%)
  - ✓ Biphasic: 34 (7%)

**Predictors of Survival Multivariate analysis:**
- Peritoneal Cancer Index (PCI; \(p = 0.03\)),
- CC-score: \((p=0.004)\)

Median Survival of CC2: 4.3 months

Biphasic DMPM should not be considered as an absolute contraindication for CRS HIPEC if limited PCI and Complete Cytoreduction

19 patients Treated with CRS HIPEC
Median of follow-up of 69 months (4e220)
Females: n = 17 (89%)
Mean age: 42
PCI: 15.5 ± 9.9
Major complications: n= 3 (15%)
No perioperative mortality
All patients alive

Recurrence: 4 patient (21%).

p = 0.03
Well differentiated papillary peritoneal mesothelioma treated by cytoreduction and hyperthermic intraperitoneal chemotherapy—the experience of the PSOGI registry

Marcello Deraco a,⁎ Eran Nizri a, b, Olivier Glehen c, Dario Baratti a, Jean-Jacques Tuch d, Jean-Marc Bereder e, Vahan Kepenekian c, Shigeki Kusamura a, Diane Goere f

- 45 patients (33/12-m/f)
- CRS HIPEC:38/ CRS:6
- Median follow: 46 months
- Median age: 44 yrs
- Median PCI: 9
- Major complications: 11 (24%)
- Mortality: 1 (2%)
- Prior chemotherapy: 8 (18%)
- Post chemotherapy: 2 (4.5%)

[Graphs depicting survival rates and comparisons with median values]
Peritoneal Mesothelioma & Pseudomyxoma Peritonei

Introduction

Treatment

CRS HIPEC

Peritotoneal Mesothelioma

Pseudomyxoma Peritonei

Results

Mesothelioma

Results Pseudomyxoma

Conclusion

RESULTS

PSEUDOMYXOMA PERITONEI

Marcello Deraco Director Peritoneal Surface Malignancy Unit

Do not duplicate or distribute without permission from author and ESO
High PCI LG-PMP: Intra-operative view at Laparotomy
High PCI LG-PMP: Pre-operative CT scan
Median OS: 196 months (16.3 years)
Median PFS: 98 months (8.2 years)
OS 10 and 15-year: 63% and 59%
225 PMP patients treated by CRS and HIPEC:

19 patients (8.4 %) extra-appendiceal PMP:
• ovary = 9;
• uterine cervix = 1;
• mature cystic teratomas = 4;
unknown = 5.

Appendiceal: 10-year OS = 63.4 % (Median 148.2 months);

Extra-appendiceal: 10-year OS = 62.0 %
(Median not reached).
15 relapsed PMP patients:
Metronomic Capecitabine (625 mg/mq/day b.i.d.) + Bevacizumab (7.5 mg/Kg three-weekly) until progressive disease/unacceptable toxicity;

- Partial responses: 20%
- Significant reduction of tumor markers: 79%.

Median PFS: 8.2 months

1-year overall survival was 91%
20 relapsed PMP patients: FOLFOX-4 every 2 weeks for up to 12 cycles or until progressive disease or unacceptable toxicity;

PR=20%, SD=45%, PD=35%;

Two patients undergo to 2nd CRS and HIPEC in one case

KRAS mutation: in 16 of 19 cases (84%), and MGMT promoter methylation was found in 8 (42%, all KRAS mutant).
All patient with must be evaluated at a peritoneal malignancy specialty centre;

Histological diagnosis must be reviewed by an expert pathologist. Histological subtype definition and invasiveness (Ki67) are recommended.

Serum tumour markers such as CA-125, and Mesothelin should be obtained

CRS and HIPEC should be offered; according with resectability, PCI and Ki67;

Patients with biphasic, sarcomatoid or unresectable disease may be considered for systemic chemotherapy, clinical trials or cytoreductive surgery and HIPEC after a careful multidisciplinary fashion.;

The indication of adjuvant chemotherapy for patients with malignant peritoneal mesothelioma should be taken according with prognostic factors
All patients with Mucinous Appendiceal neoplasm and PMP must be evaluated at a peritoneal malignancy specialty centre;

Histological diagnosis of appendiceal neoplasms and PMP must be reviewed by an expert pathologist. Histological subtype definition are recommended;

The indication of Right-Sided Hemi-Colectomy- CRS-HIPEC for Appendiceal Mucinous Neoplasm is decided according to several variable;

CRS and HIPEC should be offered to patients with resectable PMP;

Patients with unresectable disease may be considered for systemic chemotherapy, clinical trials or Debulking Surgery after a careful multidisciplinary fashion.;

The effectiveness of adjuvant chemotherapy for patients with KRAS mutation is under investigation;
THANK YOU FOR YOUR ATTENTION