Surgical management and neoadjuvant chemotherapy for stage III-IV ovarian cancer

Primary surgery is the standard treatment for stages I-II.

The potential indications of neo-adjuvant chemotherapy are confined to stages III-IV.
- Whether performed primary or as an interval debulking procedure, cytoreductive surgery must be complete (leaving no gross macroscopic residual disease),
- Suboptimal cytoreductive surgery must be avoided
Pre-treatment workup

A pre-treatment assessment of resectability is recommended (1)

- Clinical evaluation taking into account the general condition (ECOG score or Karnofsky index) and nutritional status (weight, albumin and pre-albumin tests) of the patient

- Anaesthesiology workup (ASA score)

- Laboratory test workup: CA 125, CA 19-9 if mucinous tumor
A pre-treatment assessment of resectability is recommended (2)

- **Radiological workup:**
  - Chest-abdominal-pelvic CT scan
  - MRI is not recommended as part of the standard workup
  - PET scan is not recommended as part of the standard workup for stages III but is optional for some cases of stage IV disease

- **Laparoscopy is the best way of assessing initial resectability**
  - Findings complete the information provided by imaging and laboratory tests
  - Also provides the **histological diagnosis** (biopsy) indispensable for therapeutic decision-making
Use of a carcinomatosis extent evaluation score is recommended

- Laparoscopic evaluation: Fagotti score
- Median laparotomy with a view to complete cytoreduction: Sugarbaker's Peritoneal Cancer Index (PCI)
Fagotti laparoscopic score (2008)

- Omental cake
- Peritoneal carcinomatosis
- Diaphragmatic carcinomatosis
- Mesenteric retraction
- Stomach infiltration
- Liver metastases

Each parameter was attributed a score of 0 to 2

Cytoreduction is incomplete in 100% of patients with a score ≥ 8
**Sugarbaker's Peritoneal Cancer Index (PCI)**

<table>
<thead>
<tr>
<th>Regions</th>
<th>Lesion Size</th>
<th>Lesion Size Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Central</td>
<td></td>
<td>0 No tumor seen</td>
</tr>
<tr>
<td>1 Right Upper</td>
<td></td>
<td>1 Tumor up to 0.5 cm</td>
</tr>
<tr>
<td>2 Epigastrium</td>
<td></td>
<td>2 Tumor up to 5.0 cm</td>
</tr>
<tr>
<td>3 Left Upper</td>
<td></td>
<td>3 Tumor &gt; 5.0 cm</td>
</tr>
<tr>
<td>4 Left Flank</td>
<td></td>
<td>or confluence</td>
</tr>
<tr>
<td>5 Left Lower</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Pelvis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Right Lower</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 Right Flank</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 Upper Jejunum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Lower Jejunum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 Upper Ileum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Lower Ileum</td>
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</tbody>
</table>

**PCI from 0 to 39**

**Sugarbaker's extension score at laparotomy**

**Milan Consensus Conference 2006**
Cytoreductive surgery

Surgery must include at least:

- Complete hysterectomy with oophorectomy
- Infragastric total omentectomy
- Appendicectomy
- Dissection of pelvic and lumboaortic lymph nodes (in the case of otherwise complete cytoreductive surgery)
CCR: completeness of cancer resection score

Size of largest node at the end of surgery
Operative report after laparotomy

The operative report must include
(surgery quality criterion)

- Useful history (e.g. hysterectomy for fibroma)
- Description of treatment strategy (initial surgery or debulking surgery after X courses)
- Sugarbaker's peritoneal carcinomatosis dissemination PCI score
- FIGO stage
- Description of surgical procedures performed
- CCR score describing the size of the residual tumour at the end of the procedure
Indication for neoadjuvant chemotherapy

Use of neoadjuvant chemotherapy must be discussed in the Pretreatment Multidisciplinary Staff Meeting before treatment is started.

- Neoadjuvant chemotherapy can be offered for stage III malignancy (stage IV disease will be discussed separately) if:
  - There are medical and/or anaesthetic contraindications for primary surgery
  - Carcinomatosis extent does not allow a primary complete cytoreduction, this has to be assessed by a trained surgical team
Neoadjuvant chemotherapy

- Chemotherapy is a combination of carboplatin and paclitaxel

- Anti-angiogenic agents (bevacizumab) must not be given in combination with neoadjuvant chemotherapy before surgery

Level 1
Grade A

Expert opinion
Three courses must be given before surgery is proposed.

If interval debulking surgery is performed after more than 3 neoadjuvant chemotherapy courses, the procedure must be followed by at least 2 courses of adjuvant chemotherapy.
Stage IV

A PET scan may usefully supplement the staging procedure

- In the event of pleural uptake, a pleuroscopy may be appropriate before abdominopelvic surgery

In most cases, initial management consists of neoadjuvant chemotherapy

Surgery must aim to be as complete as possible. Systematic review of the indication on a case by case basis in the pre-treatment MSM

- either immediately by an experienced surgical team to achieve complete cytoreduction in suitable candidates for supra-radical surgery
- or after a response to neoadjuvant chemotherapy has been obtained