The St. Gallen Model of Cooperative Management of Ovarian Cancer Patients

R. Hornung, St. Gallen
Epidemiology

Ovarian cancer incidence:

Cancer Registry St. Gallen – Appenzell (2010-2012):
- 46 Ovarian cancers/year
- ~2/3 stage III+IV (~ 30 pats)
Diagnostics

Referring Gynecologist
1. Gynecologic examination
2. Transvaginal + transabdominal sonography
3. Suspicion for ovarian cancer → Admission to a tertiary hospital specialized for gynecologic oncology

Gynecologic Cancer Center
1. General checkup
2. Laboratory: Routine hematology and blood chemistry, Ca 125, CEA (in special cases HCG, AFP and other markers)
3. CAT-scan abdomen (chest)
4. Colonoscopy (the day before surgery)

*S3 Guidelines 2013
Patient’s path, decision making

Refer Gyn → Gyn-Onc → Tumor conference → Visc-Surg

Periph Hosp

Med-Onc

Radiol
Pathol
Rad-Onc
Decision making

1. Tumor conference

Primary surgical debulking

Primary neoadjuvant chemotherapy
Decision making

Additive chemotherapy

2. Tumor conference

Interval debulking
The higher the FIGO stage, the poorer the prognosis
Prognosis

Residual tumor following surgery
Prognosis

Residual tumor following surgery

(p<0.001)
Prognosis

Residual tumor following surgery
Cytoreduction
Residual disease > 1cm versus microscopic disease

Primary surgery is of utmost importance for the patient’s survival
Therapy

Surgery of ovarian cancer

Hysterectomy
Bilateral salpingo-oophorectomy
Omentectomy
Pelvine and paraaortal lymphadenectomy
Appendectomy (mucinous ovarian cancer)
Bowel resection (rectum, colon, small intestine) with anastomosis
Splenectomy
Peritonecctomy
Therapy

Cooperative Management of Ovarian Cancer in St. Gallen
Cooperative Management of Ovarian Cancer in St. Gallen

Therapy

Preferred sites for metastasis:
- Diaphragm
- Liver serosa
- Pelvic peritoneum
- Fallopian tube
- Uterus
- Ovary
- Broad ligament
- Paraortic lymph nodes
- Pelvic lymph nodes

Systematic inspection of the abdominal cavity:

Kantonsspital St. Gallen – ein Unternehmen, drei Spitäler. St.Gallen Rorschach Flawil
Cooperative Management of Ovarian Cancer in St. Gallen

Therapy
Cooperative Management of Ovarian Cancer in St. Gallen

Therapy
Cooperative Management of Ovarian Cancer in St. Gallen

Therapy
Cooperative Management of Ovarian Cancer in St. Gallen

Therapy

- Lymphadenectomy R0
- Lymphadenectomy R1
- Lymphadenectomy R0 and no macroscopic suspicious LN

Cooperative Management of Ovarian Cancer in St. Gallen

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowel Resection</td>
<td>116/301</td>
<td>38.5%</td>
</tr>
<tr>
<td>Rectosigmoidectomy Only</td>
<td>81/116</td>
<td>69.8%</td>
</tr>
<tr>
<td>Upper Bowel Surgery Only</td>
<td>17/116</td>
<td>14.7%</td>
</tr>
<tr>
<td>Rectosigmoidectomy and Upper Bowel Surgery</td>
<td>18/116</td>
<td>15.5%</td>
</tr>
<tr>
<td>Pelvic Peritonectomy Only</td>
<td>133/301</td>
<td>44.2%</td>
</tr>
<tr>
<td>Upper Abdominal Procedures Only</td>
<td>13/301</td>
<td>4.3%</td>
</tr>
<tr>
<td>Pelvic Peritonectomy and Upper Abdominal Procedures</td>
<td>69/301</td>
<td>22.9%</td>
</tr>
<tr>
<td>Upper Abdominal Procedures</td>
<td>82/301</td>
<td>27.2%</td>
</tr>
<tr>
<td>Diaphragmatic Peritoneum Stripping</td>
<td>45/82</td>
<td>54.9%</td>
</tr>
<tr>
<td>Splenectomy</td>
<td>31/82</td>
<td>37.8%</td>
</tr>
<tr>
<td>Colecystectomy</td>
<td>16/82</td>
<td>19.5%</td>
</tr>
<tr>
<td>Liver Metastasectomy</td>
<td>5/82</td>
<td>6.1%</td>
</tr>
<tr>
<td>Partial Gastrectomy</td>
<td>3/82</td>
<td>3.6%</td>
</tr>
<tr>
<td>Distal Pancreatectomy</td>
<td>3/82</td>
<td>3.6%</td>
</tr>
<tr>
<td>Diaphragmatic Full-Thickness Resection</td>
<td>2/82</td>
<td>2.4%</td>
</tr>
<tr>
<td>Hepatic Hilum Lymphadnectomy</td>
<td>1/82</td>
<td>1.4%</td>
</tr>
<tr>
<td>Celiac Lymphadenectomy</td>
<td>1/82</td>
<td>1.4%</td>
</tr>
<tr>
<td>Retroperitoneal Lymphadenectomy</td>
<td>196/301</td>
<td>65.1%</td>
</tr>
<tr>
<td>Pelvic Lymphadenectomy</td>
<td>188/196</td>
<td>95.9%</td>
</tr>
<tr>
<td>Aortic Lymphadenectomy</td>
<td>149/196</td>
<td>74.5%</td>
</tr>
</tbody>
</table>
Cooperative Management of Ovarian Cancer in St. Gallen

Therapy

Hazard ratio for dying due to ovarian cancer

<table>
<thead>
<tr>
<th>Stage III–IV</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Eisenkop [9]</td>
<td></td>
</tr>
<tr>
<td>Carney [22]</td>
<td></td>
</tr>
<tr>
<td>Engelen [33]</td>
<td></td>
</tr>
<tr>
<td>Chan [42]</td>
<td></td>
</tr>
<tr>
<td>Bailey [51] (adj)</td>
<td></td>
</tr>
<tr>
<td>Earle [36] (adj)</td>
<td></td>
</tr>
<tr>
<td>Skirnsdottir [40] (adj)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stage III</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Paulsen [37] (adj)</td>
<td></td>
</tr>
<tr>
<td>Junor [19] (adj)</td>
<td></td>
</tr>
<tr>
<td>Nguyen [12]</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stage IV</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GYO better [2] (adj)</td>
<td></td>
</tr>
<tr>
<td>Nguyen [12]</td>
<td></td>
</tr>
</tbody>
</table>

GYO better

Gyn-oncologist  Ob / Gyn

Gynecologic Oncology 112 (2009) 422–436

Kantonsspital St.Gallen – ein Unternehmen, drei Spitäler. St.Gallen Rorschach Flawil
Therapy

Ovarian cancer incidence:

Cancer Registry St. Gallen – Appenzell (2010-2012):
- 46 Ovarian cancers / year
- \(\sim\)2/3 stage III+IV (\(\sim\) 30 pats)

About 20 surgeries for stage III/IV ovarian cancer / y requested for adequate quality of care

\(\rightarrow\) In east of Switzerland only 1 center possible / reasonable
Additive Chemotherapy

6 cycles of Carboplatin 5AUC + 175 mg/m² Paclitaxel every 3 weeks (Paclitaxel weekly)

Some indications: + Bevacizumab
Survival following neoadjuvant chemotherapy + surgery

= 

Survival following primary surgery + adjuvant chemotherapy
Cooperative Management of Ovarian Cancer in St. Gallen

**Therapy**

Quality of life of advanced ovarian cancer patients in the randomized phase III study comparing primary debulking surgery versus neo-adjuvant chemotherapy

*Gynecologic Oncology 131 (2013) 437–444*

Survival and **quality of life** of patients with ovarian cancer III / IV

neoadjuvant chemotherapy + secondary debulking

= primary surgery + adjuvant chemotherapy

→ Survival and quality of life are significantly better when the patient is treated in a gyn-onc center
Therapy
Patients profiting from primary debulking surgery

- Stage IIIA/B
- Stage IIIC radical operable (R0 very likely to be achieved)

Patients profiting from neoadjuvant chemotherapy followed by interval debulking

- Stage IIIC R0 very likely not to be achieved (small bowel)
- Stage IV (probability for R0 resection < 10%)
- Poor general condition
- Logistic problems

→ Individual decision (team, experience)