Malignant Bowel Obstruction and Ovarian Cancer

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University of North Carolina at Chapel Hill
I have no conflicts of interest to report.
Objectives

• Understand surgical and non-surgical treatment strategies for malignant bowel obstruction in ovarian cancer.
# Cancer Females - 2012

## (ACS)

<table>
<thead>
<tr>
<th>Site</th>
<th>New</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung</td>
<td>109,690</td>
<td>72,590</td>
</tr>
<tr>
<td>Breast</td>
<td>226,870</td>
<td>39,510</td>
</tr>
<tr>
<td>Colon</td>
<td>53,250</td>
<td>25,220</td>
</tr>
<tr>
<td>Ovary</td>
<td>22,280</td>
<td>15,500</td>
</tr>
<tr>
<td>Uterine</td>
<td>47,130</td>
<td>8,010</td>
</tr>
<tr>
<td>Renal</td>
<td>24,520</td>
<td>4,920</td>
</tr>
<tr>
<td>Bladder</td>
<td>17,910</td>
<td>4,370</td>
</tr>
<tr>
<td>Cervix</td>
<td>12,170</td>
<td>4,220</td>
</tr>
</tbody>
</table>
Ovarian Cancer

- Worldwide: 204K cases, 125K deaths
- 75% of patients present with advanced disease, Stage III/IV
- 5 year survival is 30-50%
- 1/10 as common as Breast cancer but 3X more lethal
Ovarian cancer

- Mean age = 63 years
- Average risk 1 in 70 women = 1.8%
- If 1st degree relative has ovarian cancer, the risk increases to 4-5%.
OVARIAN CANCER
Epidemiology

- Nulliparous or low parity
- Less ovulation--less risk
- OCP protective (reduced risk 50% over 10 + yrs)
- Familial aggregates
- Associated with genetic syndromes
  - Gonadal dysgenesis
  - Peutz-Jegher
  - Basal cell nevus syndrome (ovarian fibroma)
  - BRCA 1 and 2 high risk mutations
• Breast Cancer gene 1 and 2
• If BRCA1 positive: 60-80% risk of breast cancer; 40-60% risk of ovarian cancer
• If BRCA2 positive: 60-80% risk of breast cancer; 10-20% risk of ovarian cancer
### Silent Killer??

<table>
<thead>
<tr>
<th>SYMPTOM</th>
<th>% OF TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdominal pain</td>
<td>50.8</td>
</tr>
<tr>
<td>Abdominal swelling</td>
<td>49.5</td>
</tr>
<tr>
<td>G.I. Complaints</td>
<td>21.6</td>
</tr>
<tr>
<td>Weight loss</td>
<td>17.5</td>
</tr>
<tr>
<td>Abnormal bleeding</td>
<td>17.1</td>
</tr>
<tr>
<td>Urinary</td>
<td>16.4</td>
</tr>
<tr>
<td>Pelvic pressure</td>
<td>5.0</td>
</tr>
<tr>
<td>Backache</td>
<td>4.9</td>
</tr>
<tr>
<td>Mass felt by patient</td>
<td>2.8</td>
</tr>
<tr>
<td>None</td>
<td>0.4</td>
</tr>
</tbody>
</table>

Gynecologic Oncology---Ed. Coppleson
Histology

- Serous (75%)
- Mucinous (10%)
- Endometrioid (10%)
- Clear Cell
- Brenner (transitional cell) Tumors
- Undifferentiated
FIGO STAGING

- Stage 1 – Tumor limited to ovaries (one or both)
- Stage 2 - Tumor involves one or both ovaries with pelvic extension
- Stage 3 - Tumor involves one or both ovaries with microscopically confirmed peritoneal metastasis outside the pelvis
- Stage 4 - Distant metastasis (excludes peritoneal metastasis)
## Stage and Survival

<table>
<thead>
<tr>
<th>FIGO Stage</th>
<th>Overall 5 year Survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>89.6%</td>
</tr>
<tr>
<td>1B</td>
<td>86.1%</td>
</tr>
<tr>
<td>1C</td>
<td>83.4%</td>
</tr>
<tr>
<td>2A</td>
<td>70.7%</td>
</tr>
<tr>
<td>2B</td>
<td>65.5%</td>
</tr>
<tr>
<td>2C</td>
<td>71.4%</td>
</tr>
<tr>
<td>3A</td>
<td>46.7%</td>
</tr>
<tr>
<td>3B</td>
<td>41.5%</td>
</tr>
<tr>
<td>3C</td>
<td>32.5%</td>
</tr>
<tr>
<td>4</td>
<td>18.6%</td>
</tr>
</tbody>
</table>
Management

- Surgery
- Chemotherapy
Initial Surgery

- Debulking
- TAH/BSO
- Omentectomy
- Probably some bowel resection
- Resect focal tumor masses/lymph nodes
Radical Debulking Surgery

- Splenectomy
- Diaphragm stripping
- Bowel resection
- Posterior exenteration
Optimal Rationale

• Remove poorly vascularized tumor
• Residual tumor will have higher growth fractions and cell kill will be higher
• Smaller tumor requires fewer cycles of treatment so drug resistance decreases
• Remove chemoresistant cells
• Increase immunocompetence
• If residual disease was:
  • < 1 cm = 50% 5-year survival
  • 1-2 cm = 28% 5-year survival
  • > 2 cm = 21% 5-year survival
Surgery and Chemotherapy

- Almost all cases benefit from chemotherapy
- Optimal debulking followed by chemotherapy results in clinical regression in 75% of patients.
- 75% patients ultimately relapse
- 50% recur in 2-3 years following initial treatment
Standard Chemotherapy

- Platinum and taxane (IV or IV/IP)
- Taxol and carboplatin outpatient is standard
- Side effects manageable with new antiemetics and growth factors
- Given outpatient
- 75% response rate
- Almost all patients will go on to additional treatment
Recurrence

• Platinum sensitive = recur > 6 months after last treatment
• Platinum resistant = recur < 6 months after treatment
• Platinum refractory = progressing while undergoing first line treatment
Treatment for Recurrence

- Taxane/Platinum
- Topotecan, doxil, gemzar - FDA labeling for second line
- Taxotere, weekly taxol, weekly topotecan, navelbine, Alimta
- Oral agents: etoposide, tamoxifen, hexalen
If platinum resistant...

• Median survival is 6 months
• Usually treat single agent
Chronic disease

- One recur, rare to go into remission
- Patients may go on to multiple regimens for multiple recurrences
- Consider ovarian cancer a chronic disease
- Many choices for recurrence
- Often treat 6-7th line
Clinical Scenario

- 67 yo woman, recurrent ovarian cancer presents to the ER with nausea and vomiting for 3 days.
- Has received taxol/carboplatin, gemzar, doxil and is now on topotecan.
- 3 way of the abdomen is consistent with a partial small bowel obstruction.
Malignant Bowel Obstruction

• 50% of ovarian cancer.
• Common problem in relapsed ovarian cancer (35% of cases).
• Small bowel obstruction more common than large bowel obstruction.
• Associated with a poor prognosis – most patients die within a year.
• Complications of bowel obstruction are the main cause of death in ovarian cancer.
• Clinical challenge – no level 1 evidence or national guidelines or QOL data
Pathophysiology

- Widespread carcinomatosis
- Intra-abdominal and/or locoregional recurrences
- Retroperitoneal disease
- Involvement of mesenteric plexuses
- Adhesions
Non-Malignant Causes of Bowel Obstruction

• 23% of patients with ovarian cancer.
• Predisposing factors include:
  » Previous surgery
  » Intraperitoneal chemotherapy
  » Abdominopelvic radiation (rarely used in ovarian cancer)
  » p32 treatment
Bowel Obstruction at Initial Presentation

• Uncommon – 8-30% of patients
• Rare for endometrial cancer and primary peritoneal cancer.
• Usually these women are not optimally debulked – shorter PFS and OS.
Presentation

- Nausea and vomiting
- Abdominal pain
- Abdominal distention
- Constipation
- Liquid stools
- Chronic symptoms – rarely present as an emergency
Diagnosis

- Clinical assessment (pelvic and rectal exam)
- Plain abdominal radiographs – air fluid levels
- CT scan
- Almost all ovarian cancer patients with bowel obstruction have recurrent disease!
Initial Management

- Intravenous fluids
- NPO
- Nasogastric tube
- Pain control
- Correction of electrolytes
- Attention to fluid balance is crucial.
- TPN for a defined period of time.
If fail conservative management....

- Surgery
- Chemotherapy
- Palliative Care
Chemotherapy?

- No substantial data to support.
- Only case series.
- Can be hazardous – paclitaxel associated with bowel perforation in this setting.
Cochrane Review

• Palliative surgery versus medical management for bowel obstruction

• Only 1 study met criteria!

• 47 patients, N=27 palliative surgery, N=20 medical management with octreotide

1Kucukmetin et. al., Cochrane Database Syst Rev; CD007792 (2010).
2Mangili et. al., In J Gynecol Cancer; 15:830-5 (2005).
Cochrane Review

- 6 (22%) did not have surgical correction of their bowel obstruction, 6 (22%) had operative morbidity, 6 (22%) died of complications.
- In the surgery group, 16 (76%) patients were able to take a low residue diet.
- In the octreotide group, 6 (30%) patients were able to take a low residue diet. Vomiting was controlled in all but 1 patient (5%). 12 (60%) were discharged home.
- Women who received surgery had better survival than those who received medical management (p<0.001).
Palliative care for intestinal obstruction in recurrent ovarian cancer: a multivariate analysis

G. MANGILI*, G. ALETTI*, L. FRIGERIO*, M. FRANCHI†, N. PANACCI*, R. VIGANO*, P. DE MARZI*, F. ZANETTO* & A. FERRARI*

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Cumulative Percent Surviving

Median survival was 79 days (range of 9-250).

Figure 1. Estimated cumulative percent survival by different treatment of patients (OCT, Octreotide; SURG, surgery). $P < 0.001$ (log-rank test).

Int J Gynecol Cancer 2005, 15, 830–835
Table 2. Multivariate analysis for prognostic factors

<table>
<thead>
<tr>
<th>Factor</th>
<th>$p^*$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>n.s.</td>
</tr>
<tr>
<td>Performance status</td>
<td>n.s.</td>
</tr>
<tr>
<td>Palpable masses</td>
<td>n.s.</td>
</tr>
<tr>
<td>Previous chemotherapy</td>
<td>n.s.</td>
</tr>
<tr>
<td>Previous radiotherapy</td>
<td>n.s.</td>
</tr>
<tr>
<td>Ascites</td>
<td>n.s.</td>
</tr>
<tr>
<td>Occlusion site</td>
<td>n.s.</td>
</tr>
<tr>
<td>Diagnosis to occlusion time</td>
<td>n.s.</td>
</tr>
<tr>
<td>Treatment (surgical vs medical)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

n.s., not significant.
*Cox’s regression hazard model.

* Significant predictors of survival.
A Prospective Outcomes Analysis of Palliative Procedures Performed for Malignant Intestinal Obstruction Due to Recurrent Ovarian Cancer

DENNIS S. CHI, a REBECCA PHAÉTON, b THOMAS J. MINER, c STEVEN V. KARDOS, d JOHN P. DIAZ, a MARIO M. LEITAO, JR., a GINGER GARDNER, a JAE HUH, a WILLIAM P. TEW, e JASON A. KONNER, e YUKIO SONODA, a NADEEM R. ABU-RUSTUM, a RICHARD R. BARAKAT, a DAVID P. JAQUES f

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The Oncologist 2009;14:835–839 www.TheOncologist.com
Operative procedures in 14/26 (54%).
Endoscopic procedures in 12/26 (46%).
• Overall, symptomatic improvement or resolution within 30 days was achieved in 23 (88%) of 26 patients, with 1 (4%) post-procedure mortality.
• At 60 days, 10 (71%) of 14 patients who underwent operative procedures and 6 (50%) of 12 patients who had endoscopic procedures had symptom control.
• Symptom control simply meant absence of symptoms of GI obstruction.
However, 58% of the patients who underwent endoscopic procedures had symptom recurrence or death within 90 days as did 36% of operative patients.

Median survival from the time of the palliative procedure was **191 days** (range 33-902) for those undergoing an operative procedure and **78 days** (range 18-284) for those undergoing an endoscopic procedure.

Interestingly, 65% of these patients went on to have salvage chemotherapy. Chemotherapy was given to 12 (86%) of the 14 patients who underwent operative procedures and 5 (42%) of the 12 women who had endoscopic procedures.
Surgery

- **Controversial**
  - Significant associated mortality and morbidity
  - May not achieve the palliative goals, even in the short term
  - No agreed definition of successful palliation
  - No guidelines to assist decision making
  - Limited QOL data
Surgery

- Successful palliation in 66-80%??
- Operative mortality rate of 12-25%
- Morbidity rate of 50% (i.e. wound complications, intestinal fistulas and anastomotic leakage)
- Re-obstruction rate of 10-50%
- No strategy to identify those patients in bowel obstruction who would and would not benefit from surgical management.
Surgery

- Literature review of 700 surgeries for major intestinal obstruction in women with ovarian cancer.\(^1\)
- Surgically correctable disease in 90%.
- Major morbidity = 32%
- Perioperative death = 15%
- Median survival of 17 weeks.

\(^1\)Pthuri et. al., Gynecol Oncol; 89: 306 (2003).
Informed Consent

- Balanced discussion of risks and benefits
- Immediate and long-term complications
- Morbidity and mortality
- Post-surgical recovery
- Cannot always resect the site of obstruction
Table 1. Factors in the decision making process.

<table>
<thead>
<tr>
<th>Favourable</th>
<th>Unfavourable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good performance status</td>
<td>Poor performance status</td>
</tr>
<tr>
<td>TFI &gt; 6 months</td>
<td>TFI &lt; 6 months</td>
</tr>
<tr>
<td>Chemosensitivity</td>
<td>Chemo-resistance</td>
</tr>
<tr>
<td>Small-volume ascites</td>
<td>Large-volume ascites</td>
</tr>
<tr>
<td>Single-site disease</td>
<td>Multisite disease</td>
</tr>
<tr>
<td>Albumin &gt; 25 g/dl</td>
<td>Albumin &lt; 25 g/dl</td>
</tr>
</tbody>
</table>

TFI, treatment-free interval.

Kolomainen and Barton, Current opinion in Supportive and Palliative Care, 5:55-59 (2011)
Other factors to consider...

- Previous surgery
- Previous radiation/p32
- Palpable abdominal or pelvic masses
- Poor nutritional status
- Weight loss of > 9 kg
Alternative Treatments

- Chemotherapy – ineffective in patients already exposed to multiple lines of treatment
- Metallic stents
- Gastroscopy tubes
- Pain management
- IV hydration
- Hospice care
Gastric and Colonic Stenting

- Endoscopic procedure
- Bridge to surgery
- Success rate of 88-93%
- Candidates include:
  - Incurable metastatic disease
  - Unfit for surgery
  - Single point of obstruction or locally extensive disease
  - Do not want surgery
• **Contraindications:** colonic or tumor perforation with peritonitis

• **Complications:**
  » Mortality <1%
  » Stent migration in 10%
  » Bleeding in 5%
  » Perforation in 4%, 10% with the use of dilation for stent placement
  » Recurrent obstruction in 10%
NG Tube

• Temporizing measure
• Uncomfortable
• Nose/throat pain
• Sinusitis
• Abscess formation
• Erosion of nasal cartilage
• Aspiration
• Esophageal erosion
• Pharyngitis
• Social isolation.
Venting Gastrotomy

- Relieves nausea/vomiting in 80-90% of patients and restores some level of oral intake
- Placed surgically, percutaneously with fluoroscopy or endoscopically
- Candidates:
  - Poor performance status
  - Rapidly progressive disease
  - Peritoneal carcinomatosis
  - Multiple levels of obstruction
  - Life expectancy of < 30 days
Venting Gastrotomy

• No absolute contraindications
• Massive ascites, previous abdominal surgery or a large mass attached to the abdominal wall can make tube placement difficult.
• Complications:
  » Most are local
  » Transient abdominal pain
  » Dislodgement or obstruction of the tube
  » Bleeding
  » Catheter migration
  » Peritonitis
  » Necrotizing fasciitis
  » Skin excoriation
  » Leakage of ascites
Pain Management

- Continuous and colic
- Continuous – opioids (i.e. morphine, hydromorphone, fentanyl)
- Titrated for adequate relief
- SC, IV, sublingual and transdermal
- Colic – opioids can aggravate colic by stimulating circular smooth muscle, leading to segmental contractions
- Opioid sparing drugs – ketorolac
- Drugs that reduce colic – scopolamine drugs, robinul and octreotide
Control of Nausea/Vomiting

- Phenothiazines
- 5-HT3 (serotonin) antagonists
- Haloperidol – butyrophenone selective dopamine D2-receptor antagonist
- Anticholinergics – reduce GI secretions, fluid accumulation and vomiting
- Metoclopramide – dopaminergic antagonist, 5-HT4 receptor agonist and 5-HT3 receptor blocker
- Olanzapine – atypical antipsychotic, blocks multiple neurotransmitter receptors (D2, H1, ACH, 5-HT2) responsible for initiating emesis
Control of Nausea/Vomiting

- Corticosteroids – reduce peri-tumoral edema and luminal salt and water, anti-emetic and analgesic properties, trial of 4-5 days to determine response
- Octreotide – analogue of somatostatin, blocks the release of vasoactive intestinal polypeptide
  - Reduces excretion of water, sodium and chloride into the bowel lumen and increases the absorption of electrolytes and water.
  - Inhibits pancreatic enzyme secretion and splanchnic flow.
  - Reduced luminal content, reduced motility, reduced vascular congestion of the bowel wall, sometimes reduced ascites.
  - Expensive.
Octreotide and Malignant Bowel Obstruction

- 15 randomized controlled trials and observational reports; 281 patients surveyed\(^1\)
- Success rate of 60-90%
- 3 small, randomized controlled trials comparing to scopolamine (18, 17 and 68 patients in each)
- 2 studies reported a significant difference in nausea and vomiting favoring octreotide, other study reported a significant decrease in GI secretions
- Only drug approved in Italy by the health care system for this indication.

\(^1\)Mercadante et. al., Critical Reviews in Oncology/Hematology; In Press (2012)
Large Bowel Obstruction

- Diverting colostomy
- Rectal tube
- Cecostomy
Quality of Life

- No data on QOL and malignant bowel obstruction in ovarian cancer patients.
- Little data on QOL and malignant bowel obstruction.
- Prospective study of 35 patients admitted for malignant bowel obstruction.\(^1\)
- QOL assessed at recruitment, 1 week, 1 month and 3 months (Edmonton Symptom Assessment Scale and Rotterdam Symptom Checklist)

\(^1\)Selby et. al., Palliative Medicine; 24: 38-45 (2010).
### Table 2. MBO treatment and outcomes

<table>
<thead>
<tr>
<th>Category</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients</td>
<td>35</td>
<td>100</td>
</tr>
<tr>
<td><strong>MBO treatment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supportive/medical care only</td>
<td>13</td>
<td>37.1</td>
</tr>
<tr>
<td>Chemotherapy</td>
<td>10</td>
<td>28.6</td>
</tr>
<tr>
<td>Chemotherapy and surgery</td>
<td>3</td>
<td>8.6</td>
</tr>
<tr>
<td>Surgery</td>
<td>9</td>
<td>25.7</td>
</tr>
<tr>
<td><strong>Disposition after initial MBO admission</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discharged home</td>
<td>26</td>
<td>74.3</td>
</tr>
<tr>
<td>Palliative care unit</td>
<td>3</td>
<td>8.6</td>
</tr>
<tr>
<td>Died in hospital</td>
<td>6</td>
<td>17.1</td>
</tr>
</tbody>
</table>
• ESAS score improved at 1 week, 1 month, stable at 3 months.
• Highest scores were fatigue, loss of appetite and overall well-being.

<table>
<thead>
<tr>
<th></th>
<th>Baseline (N = 34)</th>
<th>One week (N = 32)</th>
<th>One month (N = 18)</th>
<th>Three months (N = 10)</th>
<th>One week (N = 32)</th>
<th>One month (N = 18)</th>
<th>Three months (N = 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total score (range)</strong></td>
<td>41.0 (10–80)</td>
<td>30.0 (8–71)</td>
<td>22.5* (0–50)</td>
<td>17.0 (2–68)</td>
<td>−7.5* (−36–27)</td>
<td>−11.5*** (−44–32)</td>
<td>−11.0 (−42–41)</td>
</tr>
<tr>
<td><strong>Pain</strong></td>
<td>5.0</td>
<td>3.5</td>
<td>1.0</td>
<td>1.5</td>
<td>−0.0</td>
<td>−1.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Fatigue</strong></td>
<td>6.5</td>
<td>5.0</td>
<td>5.0</td>
<td>4.0</td>
<td>−1.0*</td>
<td>−1.0</td>
<td>−1.0</td>
</tr>
<tr>
<td><strong>Nausea</strong></td>
<td>3.0</td>
<td>1.0</td>
<td>0.0*</td>
<td>1.0</td>
<td>0.0</td>
<td>−2.0*</td>
<td>−0.5</td>
</tr>
<tr>
<td><strong>Depression</strong></td>
<td>2.0</td>
<td>1.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Anxiety</strong></td>
<td>3.0</td>
<td>2.0</td>
<td>1.5</td>
<td>0.5</td>
<td>−1.0*</td>
<td>−0.5</td>
<td>−1.5</td>
</tr>
<tr>
<td><strong>Drowsiness</strong></td>
<td>6.0</td>
<td>3.0</td>
<td>3.0</td>
<td>2.5</td>
<td>−1.0**</td>
<td>−1.5</td>
<td>−2.0</td>
</tr>
<tr>
<td><strong>Loss of appetite</strong></td>
<td>7.5</td>
<td>6.0</td>
<td>5.0*</td>
<td>2.5</td>
<td>0.0</td>
<td>−1.5*</td>
<td>−3.0</td>
</tr>
<tr>
<td><strong>Overall well-being</strong></td>
<td>6.0</td>
<td>5.0</td>
<td>4.5</td>
<td>4.0</td>
<td>0.5</td>
<td>−1.0</td>
<td>−1.5</td>
</tr>
<tr>
<td><strong>Dyspnea</strong></td>
<td>0.0</td>
<td>0.5</td>
<td>0.0</td>
<td>0.0</td>
<td>−0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

*p < 0.05
**p < 0.01
RSCL scores improved at 1 week, 1 month, worsened at 3 months, mostly due to increasing psychological functioning scores.

Little improvement in activity level.
**Table 5. Normalized RSCL at baseline by treatment group**

<table>
<thead>
<tr>
<th></th>
<th>Supportive care only (N = 13)</th>
<th>Chemotherapy only (N = 10)</th>
<th>OR only (N = 9)</th>
<th>Chemotherapy and OR (N = 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical distress</td>
<td>37.7</td>
<td>31.9</td>
<td>36.2</td>
<td>37.7</td>
</tr>
<tr>
<td>Psychological distress</td>
<td>47.6</td>
<td>40.5</td>
<td>33.3</td>
<td>61.9</td>
</tr>
<tr>
<td>Activity level</td>
<td>16.7*</td>
<td>66.7</td>
<td>54.2</td>
<td>66.7</td>
</tr>
<tr>
<td>Overall QOL</td>
<td>6.0</td>
<td>5.0</td>
<td>6.0</td>
<td>4.0</td>
</tr>
</tbody>
</table>

*p < 0.05

**Table 6. Normalized RSCL at 1 month by treatment group**

<table>
<thead>
<tr>
<th></th>
<th>Supportive care only (N = 1)</th>
<th>Chemotherapy only (N = 8)</th>
<th>OR only (N = 6)</th>
<th>Chemotherapy and OR (N = 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical distress</td>
<td>14.5</td>
<td>12.3</td>
<td>28.3</td>
<td>21.7</td>
</tr>
<tr>
<td>Psychological distress</td>
<td>23.8</td>
<td>23.8</td>
<td>21.4</td>
<td>42.9</td>
</tr>
<tr>
<td>Activity level</td>
<td>62.5</td>
<td>47.9</td>
<td>37.5</td>
<td>66.7</td>
</tr>
<tr>
<td>Overall QOL</td>
<td>4.0</td>
<td>2.0</td>
<td>4.0</td>
<td>3.0</td>
</tr>
</tbody>
</table>

- Activity level lowest in supportive care group.
- Other baseline levels were similar.
Conclusions:

» QOL was extremely poor at baseline but did improve over time.

» Further work should address (1) lack of improvement in activity and (2) deterioration in psychological function after one month.

Table 7. Highest ranked symptoms on the RSCL (means)

<table>
<thead>
<tr>
<th></th>
<th>Baseline (N = 35)</th>
<th>One week (N = 32)</th>
<th>One month (N = 18)</th>
<th>Three months (N = 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical Symptoms</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tiredness (3.06)</td>
<td></td>
<td>Tiredness (2.72)</td>
<td>Lack of energy (2.56)</td>
<td>Tiredness (2.70)</td>
</tr>
<tr>
<td>Lack of energy (3.00)</td>
<td></td>
<td>Lack of energy (2.53)</td>
<td>Tiredness (2.56)</td>
<td>Lack of energy (2.50)</td>
</tr>
<tr>
<td>Abdominal pain (2.94)</td>
<td></td>
<td>Decreased appetite (2.53)</td>
<td>Abdominal pain (2.00)</td>
<td>Decreased sexual interest (2.25)</td>
</tr>
<tr>
<td><strong>Psychological symptoms</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worrying (2.54)</td>
<td>Worrying (1.94)</td>
<td>Worrying (2.00)</td>
<td>Anxiety (2.50)</td>
<td></td>
</tr>
<tr>
<td>Despairing about the future (2.46)</td>
<td>Despairing about the future (1.94)</td>
<td>Tension (1.94)</td>
<td>Despairing about the future (2.40)</td>
<td>Worrying (2.40)</td>
</tr>
</tbody>
</table>
Conclusions

- Malignant bowel obstruction is a common clinical dilemma in relapsed ovarian cancer.
- Subset of patients may benefit from surgical intervention.
- Patients with ascites, multi-site disease, short TFI, poor performance status, poor nutrition, chemoresistance are less likely to benefit from surgery.
- Limited data in guiding clinical decision making.
- No QOL data.
- Multi-disciplinary approach is needed with early involvement of palliative care team.
Questions??

TOUGH DECISIONS AHEAD