Innovations in Surgical Oncology

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Disclosures

- Covidien
  - Speaker
- Bard
  - Speaker
- Intuitive Surgical
  - Proctor
  - Speaker
Surgical Oncology Programs

Carcinomatosis

HIPEC

Sarcoma

Resection with HAM catheters

Minimally Invasive/Robotic Approaches
Peritoneal Carcinomatosis

- Progressive involvement of peritoneal surfaces by tumor seeded within peritoneal cavity
  - Rupture primary tumor
  - Spillage tumor cells by surgical manipulation
- Traditionally considered Stage IV disease
  - Treated with systemic chemotherapy
  - Surgical treatment palliative for symptomatic disease
Patient Population

- Gastric
  - ~11,000
- Colon
  - ~17,000
- Appendiceal
  - ~1100
- Ovarian
  - ~20,000
- Mesothelioma
  - ~500
- Pseudomyxoma
Peritoneal Carcinomatosis
-Natural History-

- Crampy abdominal pain
- Anorexia/Weight loss
- Bowel Obstruction
- Ascites
- Inanition
- Infection
- Death
Peritoneal Carcinomatosis

- Major problem in cancer management
  - Hard to detect by imaging
  - Difficult to manage
  - Marked deterioration in quality of life
  - Short survival
Treatment Options

- Surgical Treatment
  - Surgery with or without systemic chemotherapy has shown to be inadequate for the treatment of patients with PC.
- Systemic Chemotherapy
  - Poor penetration to peritoneum
- Peritoneal Chemo Dwell
Rationale: Cyto-Surgery + HIPEC

- Cancer is confined to peritoneal cavity
- Surgeon can take down adhesions, cytoreduce tumors
- Heat has effect on cancer cells
- “Targeting” and localizing the principal effect of a multi-modality treatment
Multi-Modality Treatment

- Chemotherapy
- Cytoreductive Surgery
- Intraperitoneal Hyperthermia
Verwaal et al. 2003
## Improve Survival

<table>
<thead>
<tr>
<th>Peritoneal Cancer</th>
<th>Average Life expectancy with standard therapy</th>
<th>With “HIPEC”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colon</td>
<td>6 mos.</td>
<td>18 – 36 mos.</td>
</tr>
<tr>
<td>Appendix PMP</td>
<td>10 mos. 5 -10 yrs.</td>
<td>30 mos. 10 – 20 yrs.</td>
</tr>
<tr>
<td>Mesothelioma</td>
<td>12 – 21 mos.</td>
<td>34 – 92 mos.</td>
</tr>
<tr>
<td>Ovarian</td>
<td>6 mos.</td>
<td>25 – 28 mos.</td>
</tr>
<tr>
<td>Gastric</td>
<td>1 mos.</td>
<td>14 – 24 mos.</td>
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</tbody>
</table>
Before/After Cytoreductive Surgery
Cytoreductive Surgery

- The first and most important step
- The goal is to remove all visible disease.
- This would leave microscopic and small surface tumors.
Approach to Patients with Peritoneal Carcinomatosis

- Recommend Biopsy of nodules and peritoneal washings
- No need to resect primary unless perforated
- Neoadjuvant chemo followed by cytoreductive surgery with HIPEC if possible
Retroperitoneal Sarcoma

- Usually grow to a large size before presentation
- Require multivisceral resection to remove completely
- High recurrence rate
Treatment Options

- Neoadjuvant radiation followed by resection
  - Bowel and other structures protected by tumor
  - Difficult to focus on margin
- Resection followed by radiation
  - Bowel exposed to radiation which limits dose
Resection with periop radiation

- Tumor resected
- Bowel packed away
- Catheters placed at margin and radiation administered over next 36 hours
- Complete treatment achieved during one hospitalization
Case report

- 60 year old with abdominal fullness and vague pain
Surgical Resection

- Colectomy
- Nephrectomy
- Cholecystectomy
- Placement of Catheters
Result
Robotic Liver Resection
Pancreatic Surgery
55 Year old female with abdominal pain. Found to have choledochol cyst during routine IOC.
Thank You

- Staff
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