MALIGNANT MESOTHELIOMA: A TYPICAL PRESENTATION IN AN ATYPICAL PATIENT

Written by: Karyn Varley MS, SCT(ASCP)
The donating laboratory would like to remain anonymous.
PATIENT HISTORY

- 28 year old female
- Lived in India until 2010
- TB+ with normal chest x-ray
- Lifelong nonsmoker
- No other significant medical history

2/13/2015- Visited Primary Care Provider
  - Complained of abdominal bloating
    - Given Zantac

2/26/2015- Visited Gynecologist for annual exam
  - Complained of bloating & pelvic pain
    - Pap done \(\rightarrow\) NILM
    - Pelvic transvaginal ultrasound ordered
Bilateral complex ovarian masses
  • Probable ovarian carcinoma
Significant ascites
CT Abdomen/Pelvis
3/4/2015

- Bilateral cystic and solid ovarian masses compatible with peritoneal carcinomatosis
- Omental caking
- Peritoneal implant
RLQ Paracentesis
3/4/2015

- 4.2 L drained
- Reactive mesothelial cells and histiocytes
  - IHCs: MOC31(-), BerEP4(-) – absence of malignant epithelial cells
  - Calretinin(+), WT1(+) – mesothelial cells,
  - CD68(+) - macrophages
OMENTAL NODULE FNA & CORE
3/11/2015

- Malignancy vs. Granulomatous Process (TB)
- Onsite Evaluation
  - Passes 1-2- Less than optimal. Defer.
  - Touch Prep- Less than optimal. Defer.
OMENTAL NODULE FNA & CORE
3/11/2015

- Passes 1-2
  - 1 Diff-Quick & 1 Pap each
OMENTAL NODE FNA & CORE
3/11/2015

Pap 40x

Pap 40x

Touch Prep 10x

Touch Prep 10x
OMENTAL NODULE FNA & CORE
3/11/2015
Mildly atypical mesothelial cells and macrophages

- IHCs: Ber-EP4 (-)
  MOC31 (-)
  TAG-72 (-)
  Calretinin (+)
  WT-1 (+)
  Thrombomodulin (+)
  Inhibin (-)
  CD68 – Highlights macrophage
  Acid-Fast, Grocott, & PAS (-)

Differential Diagnosis:
- benign reactive papillary mesothelial hyperplasia
- well-differentiated papillary mesothelioma
- malignant mesothelioma

Recommendation of acquiring a larger tissue fragment for a more definitive diagnosis
PERITONEAL BIOPSY
03/23/2015

- Malignant mesothelioma, epithelioid and papillary type involving fibrous tissue
  - No granulomas identified. No organisms are identified by acid fast stains.
Malignant mesothelioma, epithelioid type, with tubulopapillary features, involving:

- Uterine serosa
- Bilateral fallopian tubes
- Peritoneum of right hemidiaphragm
- Rectal serosa
- Omentum and splenic capsule
- Ileal, colonic, and appendiceal serosa
  - One peri-colonic lymph node positive for tumor
- Bilateral ovaries
Pathologic Parameters
- Depth of invasion: Superficially invasive (≤ 0.5 mm)
- Prominent desmoplasia: No
- Mitotic count: ≤ 5/50 high power field
- Nuclear grade: Low
- Lymph node metastases: yes
- Sarcomatoid component: No
- CDKN2A/p16 at 9p21 by FISH: Negative for deletion
RADICAL PERITONEAL DEBULKING PROCEDURE
4/6/2015
Malignant Mesothelioma

- 75-80% occur in men
- Median age is mid 60s
- Most often associated with extensive asbestos exposure
  - Other possible causes: radiation, silica, beryllium, and Simian Virus 40
- Pleural mesothelioma is most common
- Peritoneal mesothelioma often presents with abdominal cramps, diarrhea, bowel obstruction, or ascites

**Malignant Mesothelioma Cytology**

- “More and bigger cells, in more and bigger clusters”
- Irregular papillae, 3-D clusters (knobby)
- Cell-in-cell
- N/C ratio relatively constant
- Bi- and trinucleation common
- Subtle malignant features
- Cytoplasm may show two tone staining
- Windows, skirts, blebs
- Fine vacuoles
- +/- chronic inflammation in background

## Is It Mesothelial or Epithelial?

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<th>Mesothelioma</th>
<th>Adenocarcinoma</th>
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<td>Calretinin</td>
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<td>WT-1</td>
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<td>CEA</td>
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<td>Ber-EP4</td>
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<td>BG-8</td>
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<td>MOC-31</td>
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## Mesothelial: Is It Reactive or Malignant?

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TREATMENT OPTIONS & PROGNOSIS

Treatment

- Cytoreductive surgery (CRS)
- Hyperthermic intraperitoneal chemoperfusion (HIPEC)

Poor Prognosis

- Estimated survival of one year

Recent studies using a combo of CRS and HIPEC have shown increased survival time

- Epithelial & multicystic types


Patient Follow Up

- Patient received CRS and HIPEC w/ cisplatin on 4/03/2015
- Currently continuing chemotherapy and is in stable condition
REFERENCES


Images


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