Radio-Pathologic Workup of a Retroperitoneal Abdominal Mass

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84 year old Male Presented to PCP With Abdominal Pain

• PMH: prostate ca. s/p XRT
• MEDS: Tylenol, Atrovent
• PE: VS WNL
  – GEN: WDWN NAD
  – ABD: soft, NT, ND

• An outpatient abdominal CT was ordered.
  – Indication: “Abdominal pain”
Initial Screening CT

- Abdomen and pelvis with contrast revealed large mass with soft tissue density.
Initial Screening CT

adjacent to celiac trunk, aorta

size:
7.1 x 10 cm
Initial Screening CT

SIZE OF MASS 2:
1.4 X 4.2 cm
Initial Screening CT

PANCREAS AND SPLENIC ARTERY DISPLACED ANTERIORLY
Our Patient: Coronal CT
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Now what!?

• Initial report labeled this mass as arising from the left adrenal.
• Given size and heterogeneity, malignant neoplastic process most likely.
• DDx: Metastases, adrenal carcinoma, renal lymphoma, sarcoma

• Abdominal MR ordered
• Looking for T2 enhancement, further definition of anatomy.
Our Patient: Abdominal MRI

MR FINDINGS – 7 DAYS LATER

DISPLACED L ADRENAL GLAND IDENTIFIED.

AREAS OF NECROSIS WITHIN MASS.

ENCASES PROXIMAL SMA.

BOTH MASSES IDENTIFIED, BOTH HAD EQUAL SOFT TISSUE CHARACTERISTICS.

DDx: SARCOMA, LYMPHOMA, PARAGANGLIOMA, METASTASES

CT GUIDED BX IF CLINICALLY INDICATED.
Fighting for a Tissue Diagnosis

• CT guided Bx performed 12 days after initial CT.
• Hypocellular FNA revealed scattered spindle cells, some highly atypical.
• Core needle Bx revealed atypical spindle cells, S-100, LCA and actin negative, vimentin positive.
Histopathology

• **NEGATIVE FOR:**
  • S-100, a marker for neural crest lineage, positive in nerve sheath cells and melanocytes.
  • LCA, a marker for lymphoma.
  • Actin, a marker for muscle cells, whether smooth muscle or skeletal.

• **POSITIVE FOR:**
  • Vimentin, a marker for mesenchymal cells, including sarcomas, lymphoid cells, endothelial cells, fibroblasts, and smooth muscle cells as in melanocytes and Schwann cells.
Some sort of Spindle Cell Sarcoma

- Surgical resection with wide margins, if possible.
- Exploratory laparotomy performed 2 months after initial CT.
- Found tumor to be highly vascular, involving left renal vein.
- Dissection and mobilization not possible.
- Further biopsy performed.
Spindle Cell Subtype of Liposarcoma
Spindle Cell Subtype of Liposarcoma

- Slight staining of adipocytes with S-100.
- No lipoblasts seen on histology.
- Further staining with desmin, MART-1, HMB-45 and actin negative.

- Not a perfect histologic diagnosis but liposarcoma most likely given full clinical, radiologic and pathologic picture.
Prognosis

• Well-differentiated liposarcoma has no metastatic potential.
• Local recurrence likely in 46-57% of cases in one series, even with clean margins.
• In this case tumor is inoperable.
• Sadly, for this pt, further CT scans have showed increasing tumor growth.
• Currently no treatment option available.
Our Patient: Follow up Abdominal CT

CURRENTLY 13 X 20 cm
SMA NEARLY OCCLUDED
AORTA ENCASED
SPLENIC ARTERY DRAPE D OVER TUMOR.
L PLEURAL EFFUSION.
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- http://www.luhs.org/depts/path/education/cases/case15.htm