Undifferentiated Carcinoma with Osteoclast-Like Giant Cells of the Pancreatic Tail

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Undifferentiated Carcinoma with Osteoclast-Like Giant Cells of the Pancreatic Tail

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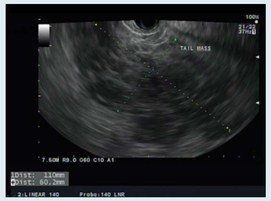
Background

- Undifferentiated carcinoma with osteoclast-like giant cells (UC-OGC) is a very rare tumor
- 0.2% of all pancreatic malignancies
- First described by Rosai et al as carcinoma of the pancreas simulating giant cell tumor of bone
- Clinicopatholigical features, treatments, and prognosis are unclear given rarity
- Course usually involves
  - Early recurrence
  - Rapid progression despite surgical resection
  - Poor prognosis (death within 1 year)

Case

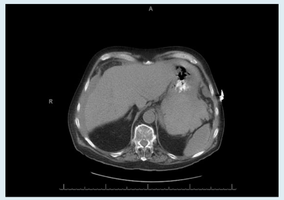
- 77 year old male with weakness and right-sided abdominal pain with radiation to the left
- CT scan demonstrating a mass of the distal pancreatic tail and body
- MRI of the abdomen showed a pancreatic tail mass and hemorrhage into the gastrosplenic ligament and around the spleen and liver
- CA 19-9 normal
- EGD and EUS revealed a hypoechoic mass near the tail of the pancreas measuring 5.4 x 4.5 cm and a solid, cystic region measuring 11 x 6 cm
- EUS guided FNA with cell block showed a poorly differentiated non-small cell carcinoma and atypical glandular epithelial cells within a background of mucin, cellular necrosis and vacuolated macrophages
- Underwent distal pancreatectomy, splenectomy, and partial removal of the omentum with negative margins and 15 resected lymph nodes
- Surgical pathology: high grade UC-OGC (8 cm in largest dimension)
- Lymphovascular invasion was present but no lymph node or perineural involvement was seen
- Staging: T3 N0 M0
- Adjuvant chemotherapy was initiated with gemcitabine (at least 3-4 cycles) with possible future radiation therapy

Endoscopic Ultrasound



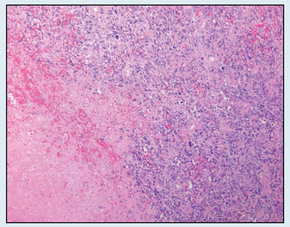
EUS: 11 x 6 cm pancreatic tail mass

CT Abdomen



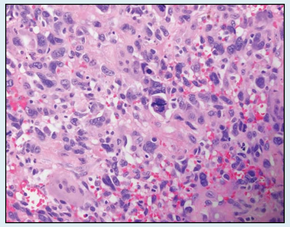
CT of the abdomen showing a large pancreatic tail mass

Histology 1



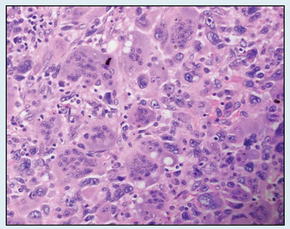
Undifferentiated carcinoma with necrosis (left), epithelioid cells, spindle cells and giant cells. 10X

Histology 2



Large pleomorphic epithelioid cells with bizarre nuclear shape, multinucleation, and abnormal mitotic figures. 40X

Histology 3



Numerous osteoclast like giant cells admixed with malignant cells. 40X

Discussion

- UC-OGC of the pancreas is a well-delineated tumor containing hemorrhagic components and central necrotic foci
- Histology: undifferentiated carcinoma cells and multinucleated osteoclast-like giant cells (simulating giant cell tumor of bone)
  - Mononuclear cells are primarily neoplastic with the osteoclast-like giant cells developing from infiltrating cells
  - Infiltrating cells may arise from fusion of bone marrow derived histiocytes/macrophages attracted by chemotaxis to the neoplastic site
- Size: UC-OGC tumors are large tumors (50% greater than 10 cm)
- Location: most arise in the head or body of the pancreas
- Prognosis: Variable, one study showing 90% two year mortality, but another showing 80% two year survival with curative surgery
- This patient provides the opportunity to review and add to the current literature available on UC-OGC of the pancreas while describing its diagnosis and treatment

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