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A Rare Case of Metastatic Uterine Leiomyosarcoma to the Pancreas

Amitosh Singh MD; Huai-En Chang; MD, MBA; Dia Copeland MD

[1]Kaiser Permanente Mid-Atlantic States
Gaithersburg, MD

ABSTRACT

Uterine leiomyosarcoma (ULMS) is a rare uterine malignancy accounting for 1.3% of all uterine malignancies and has a high risk of recurrence and death. UMLS is known to have hematogenous metastasis to the lungs, liver, abdomen, and pelvis. However, metastasis to the pancreas is far less common.

Isolated pancreatic metastasis is extremely rare, and the most seen primary origins are lung, renal, and gastrointestinal tract malignancy. This case illustrates the aggressive nature of UMLS metastasis and how most of the time, pancreatic metastases are asymptomatic and incidentally found during the follow-up. When becoming symptomatic, the patient's presentation can include obstructive jaundice, pain, and weight loss is similar to primary pancreatic cancer. Upper endoscopy with FNA biopsy is the key to diagnosing and differentiating metastatic from new primary lesions. Given the rarity, the treatment for metastatic ULMS to the pancreas is situationally determined and non-standardized, generally is still the combination of surgery, hormonal, and chemotherapy.

CONTACT

Amitosh Singh, MD
Kaiser Permanente Mid-Atlantic States
655 Watkins Mill Road, Gaithersburg MD 20878
Email: Amitosh.k.singh@kp.org
Phone: 3017851118

INTRODUCTION

- Uterine Leiomyosarcoma (UMLS) is a rare and aggressive smooth muscle malignancy accounting for 1.3% of all uterine malignancies.
- It most commonly metastasizes to lungs, liver, abdomen, and pelvis, but rarely spreads to the pancreas.
- This case demonstrates an example of multiple recurrences & non-contiguous spread to the pancreas despite aggressive treatment.
- Pancreatic lesions can silently develop, making routine screening critically important.

CASE PRESENTATION

- 39-year-old female presented for increased urinary frequency and left-sided abdominal pain.
- She initially underwent TVUS and subsequently CT & MRI abdomen/pelvis, which revealed a >10 cm pelvic mass.
- Underwent TAH-BSO with pathology showing pT2N0 (Stage IIIA) ULMS, 50% ER+/PR+ Ki 67 -
- Underwent chemotherapy with 6 cycles of Taxotere and Gemcitabine, followed by pelvic radiation before going into remission for 2 years
- On routine surveillance, she was noted to have a nodule of the lung, as well as a biopsy confirmed, liver metastasis.
- She was treated with 7 cycles of Doxil, followed by surgical resection of the hepatic lobe to negative margins, and stereotactic body radiation therapy, resulting in complete resolution of the lesions.
- 10 months later, asymptomatic surveillance CT revealed a pancreatic body mass (figure 1).
- CEA, CA 15-3, chromogranin A, and CA 19-9 were all within normal ranges.
- Follow up PET and magnetic resonance cholangiopancreatography confirmed 3.2 cm round heterogeneously enhancing mass in the pancreatic body and tail. Endoscopic ultrasound with fine needle biopsy confirmed recurrent ULMS (Figure 2).
- Restarted Doxil and is currently under evaluation for dacarbazine and the PTC596 trial.

FIGURES

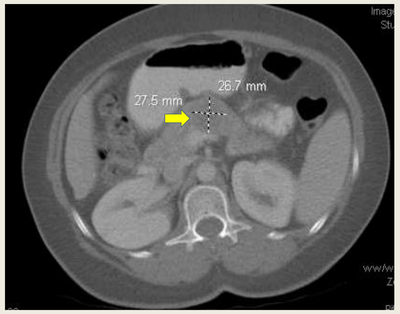

Figure 1a: Surveillance CT demonstrating recurrence in the body of the pancreas

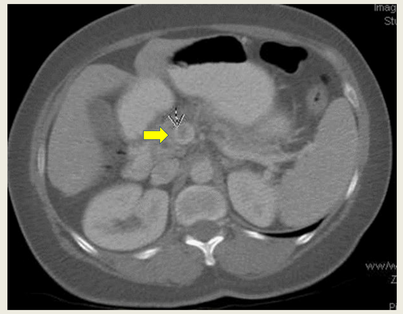

Figure 1b: portal vein thrombus in the splenic confluence

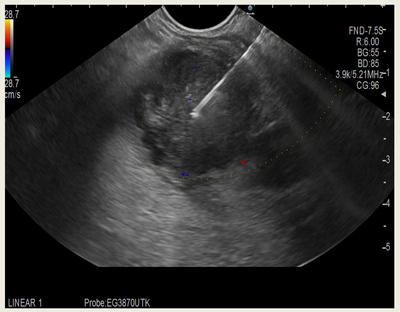

Figure 2: EUS with FNA of pancreatic body mass (left) as well as extension into the tail (right).

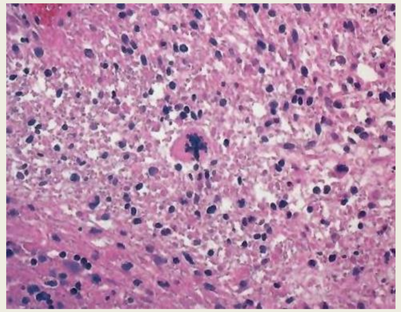

Figure 3: Leiomyosarcoma with an atypical mitotic spindle at center of H&E slide (Ref 8)

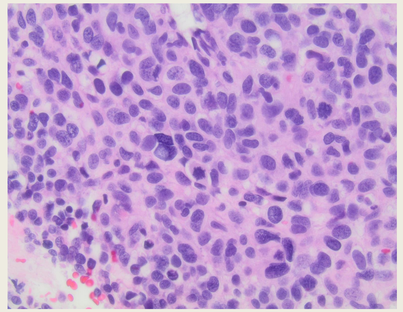

Figure 4: ULMS metastasized to pancreas. Mitotic figure at center of photo and 2 o'clock, show moderate nuclear pleomorphism and eosinophilic cytoplasm.

DISCUSSION

- Isolated pancreatic metastasis is incredibly rare. It is most commonly seen in primary renal cell carcinoma. Of the 20-30% of metastatic RCC cases, less than 5% spread to the pancreas.
- Colorectal, melanoma, breast, and lung sarcoma are the next most common sources, all with decreasing incidence.
- Of the pancreatic cancers, adenocarcinoma is the most prevalent, with pancreatic neuroendocrine tumors accounting for 1-2% of all pancreatic tumors, and less than 3% of primary pancreatic neoplasms.

CONCLUSIONS

- EUS + FNA are key for determining metastatic disease vs new primary lesion of the pancreas
- Pancreatic lesions do not have to present with obstructive biliary symptoms and can be clinically silent.
- Tumor markers and symptoms are not enough to decrease suspicion for recurrence, especially early after treatment
- Due to the rarity of uterine sarcoma metastasized to the pancreas, treatment is situationally assessed and non-standardized.

REFERENCES

1 Falconi M., Crippa S., Sargenti M., Capelli P., Pederzoli P. Pancreatic metastasis from leiomyosarcoma of the broad ligament of the uterus. *Lancet Oncol.* 2006;**7**:94–95.

2You D.D., Choi D.W., Choi S.H. Surgical resection of metastasis to the pancreas. *J Korean Surg Soc.* 2011;**80**:278–282.

3 Alonso Gómez J, Arjona Sánchez Á, Martínez Cecilia D, Díaz Nieto R, Roldán de la Rúa J, Valverde Martínez A, Lizárraga Febres E, Padillo Ruiz J, Rufián Peña S. Uterine leiomyosarcoma metastasis to the pancreas: report of a case and review of the literature. J Gastrointest Cancer. 2012 Jun;43(2):361-3. doi: 10.1007/s12029-010-9172-x. PMID: 20549388.

4 Hernández S, Martín-Fernández J, Lasa I, Busteros I, García-Moreno F. Pancreaticoduodenectomy for metastasis of uterine leiomyosarcoma to the pancreas. Clin Transl Oncol. 2010 Sep;12(9):643-5. doi: 10.1007/s12094-010-0571-z. PMID: 20851807.

5 Niess H, Conrad C, Kleespies A, Haas F, Bao Q, Jauch KW, Graeb C, Bruns CJ. Surgery for metastasis to the pancreas: is it safe and effective? J Surg Oncol. 2013 Jun;107(8):859-64. doi: 10.1002/jso.23333. Epub 2013 May 1. PMID: 23637007.

6 Thakur A, Choudhary NS, Sarin H. Metastatic leiomyosarcoma to the pancreas diagnosed on endoscopic ultrasound-guided fine needle aspiration - A report of two cases with review of spindle cell lesions of pancreas. Cytopathology. 2020 Mar;31(2):144-152. doi: 10.1111/cyt.12797. Epub 2020 Feb 7. PMID: 31900985.

7 Skagias L, Ioulia E, Politi E. Isolated pancreatic metastasis of uterine leiomyosarcoma diagnosed by fine needle aspiration biopsy. Acta Cytol. 2010 Mar-Apr;54(2):239-40. doi: 10.1159/000325021. PMID: 20391991.

8 Rosai J: Rosai & Ackerman's Surgical Pathology 9th ed, St. Louis, Mosby, 2004, p1609, Fig 19.182

9 William Mann, MD, UpToDate, Inc 2022. A - Graphic 70835 v3.0; B - Graphic 53942 v2.0