Scholars Journal of Medical Case Reports
Abbreviated Key Title: Sch J Med Case Rep
ISSN 2347-9507 (Print) | ISSN 2347-6559 (Online)
Journal homepage: https://saspublishers.com

OPEN ACCESS

Radiology

Pancreatic Metastasis Revealing Osteosarcoma in a 12-Year-Old Child: Report of a Rare Case

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DOI: 10.36347/sjmcr.2024.v12i05.056 | **Received:** 09.03.2024 | **Accepted:** 17.04.2024 | **Published:** 20.05.2024

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Abstract **Case Report**

Metastatic tumors to the pancreas in pediatric patients are exceedingly rare, and even more so when originating from primary bone tumors like osteosarcoma. Here, we present the case of a 12-year-old girl diagnosed with pancreatic metastasis as the initial presentation of osteosarcoma, emphasizing the diagnostic challenges and therapeutic considerations in such cases.

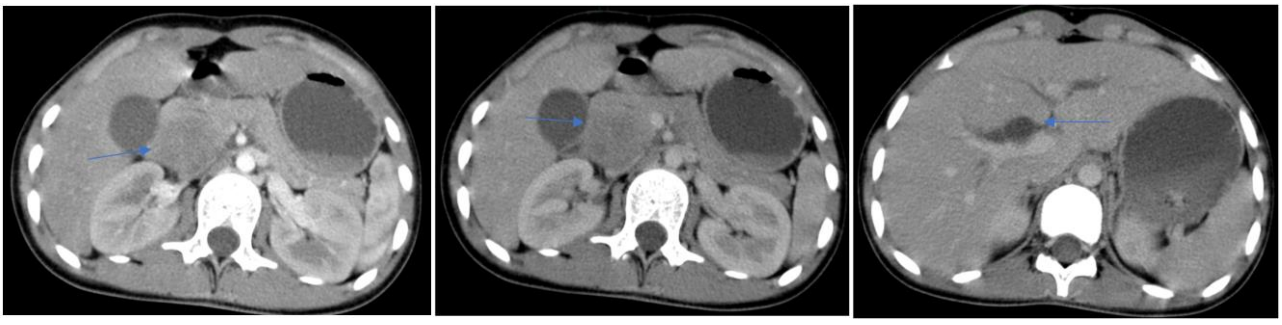
Keyword: Osteosarcoma, pancreatic metastasis.

INTRODUCTION

Osteosarcoma is the most common primary malignant bone tumor in children and adolescents. However, metastasis to the pancreas from osteosarcoma is outstandingly rare, with only a few reported cases in the literature. We report a unique case of pancreatic metastasis as the initial manifestation of osteosarcoma in a pediatric patient.

CASE REPORT

A 12-year-old previously healthy girl presented to the ER with complaints of persistent epigastric pain and weight loss over the past few months aggravated with jaundice in the last week. Questioning also revealed chronic nocturnal pain in the left thigh. Physical examination revealed tenderness in the epigastric region without palpable masses. Laboratory investigations were within normal limits. Further evaluation. Initial computed tomography (CT) scan demonstrated two badly circumfized solid lesions in the pancreatic head with irregular margins and bichannel dilatation of the bile ducts. the rest of the exam with whole-body bone scan revealed a primary tumor in the left femur with multiple metastatic lesions in the lungs and liver, confirming the diagnosis of metastatic osteosarcoma with pancreatic involvement. A biopsy was carried out on the femoral site, confirming the sarcomatous origin of the tumour, high-grade osteosarcoma was retained. A chemotherapy protocol was indicated for our patient.



(a) (b) (c)

Fig. 1: CT scan with axial sections after injection of contrast at arterial(a) and portal (b) phases. The lesion process in the head of the pancreas enhances after injection of contrast medium and is responsible for dilation of the intrahepatic bile ducts (VBIH) and the common bile duct (VBP) (c)

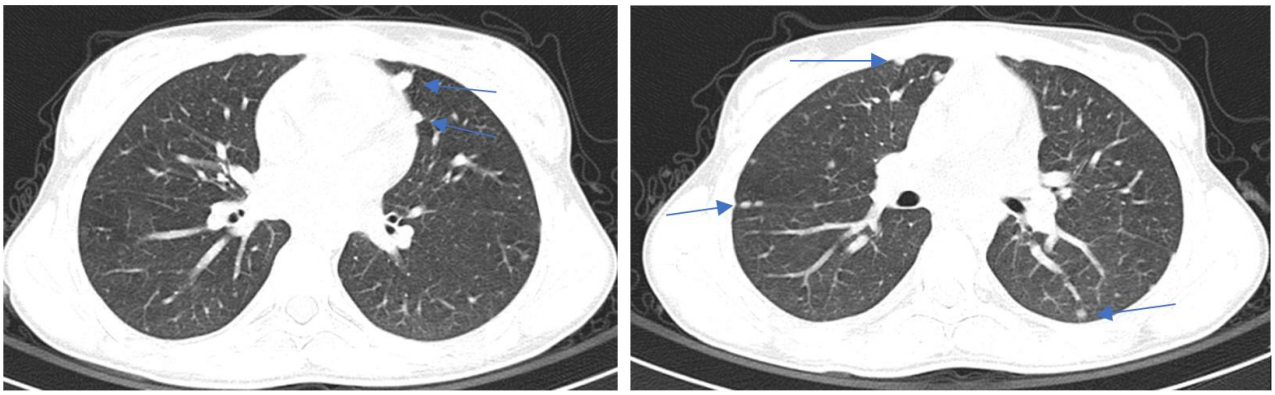


Fig. 2: Multiple intraparenchymal and subpleural nodules and micronodules diffusely distributed in both lung fields."

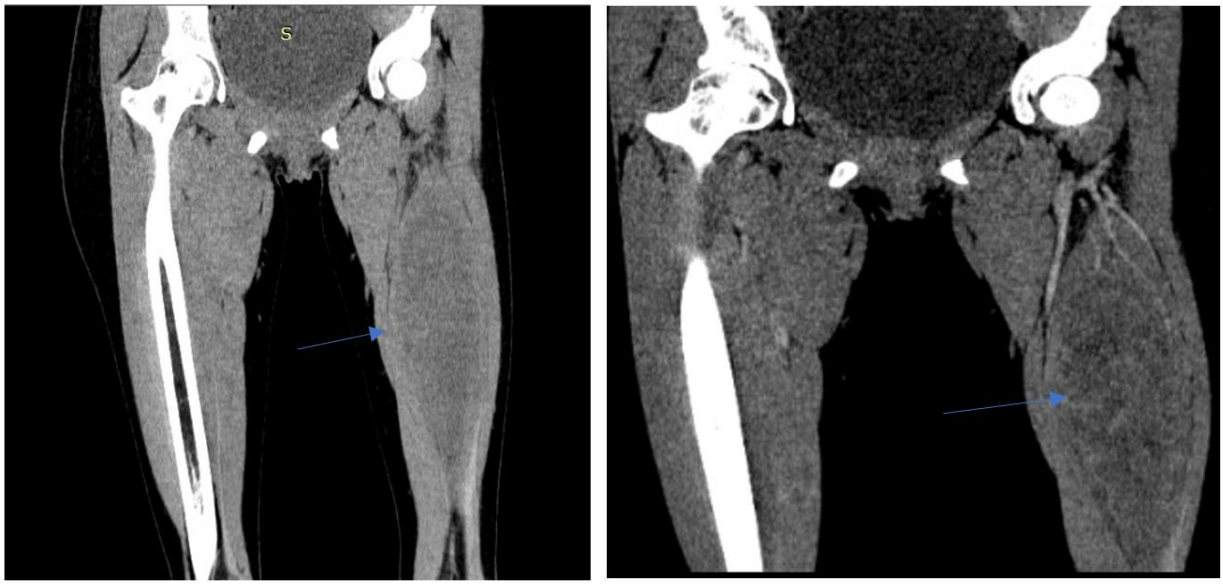


Fig. 3: Lesion process in the antero-medial compartment of the left thigh enhanced by contrast responsible for femoral cortical thickening and medullary densification

DISCUSSION

Osteosarcoma is the most common malignant bone tumor of childhood and adolescence, and has a high metastatic potential. The most common sites of metastasis are the lungs, pleurae, and bones. Less commonly, the liver, brain, and regional lymph nodes are sites of metastasis, but metastases to the pancreas are rare and its presentation as the initial manifestation of osteosarcoma is exceptionally uncommon. The diagnosis of pancreatic metastasis poses significant challenges due to its nonspecific clinical presentation and imaging findings. If a patient has a history of sarcoma, the diagnosis of pancreatic metastasis may be suggested by imaging if multiple pancreatic lesions are present. However, if the pancreatic lesion is solitary, it may be a metastasis but also a primary tumor. Thus, histological diagnosis is mandatory before any therapeutic decision. Fine-needle aspiration biopsy guided by imaging remains crucial for definitive diagnosis. Management of metastatic osteosarcoma involves a multidisciplinary approach, including chemotherapy, surgical resection of the primary tumor and metastases when feasible, and targeted therapies.

Although pancreatic metastasis from osteosarcoma is extremely unusual, the surgeon responsible for patients with osteosarcoma must be aware of its possibility because pancreatic resection may have a survival benefit for patients. However, the prognosis for patients with metastatic osteosarcoma remains poor despite aggressive treatment strategies.

CONCLUSION

We present a rare case of pancreatic metastasis revealing osteosarcoma in a 12-year-old girl, highlighting the importance of considering unusual metastatic sites in pediatric oncology. Early recognition and prompt initiation of multimodal treatment are essential for optimizing outcomes in such challenging cases. Further studies are warranted to better understand the underlying mechanisms and improve therapeutic options for pediatric patients with metastatic osteosarcoma.

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