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Case Report

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Pancreatic metastasis of renal cell carcinoma: a case report

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ABSTRACT

Pancreatic metastases constitute a mere 2% of all pancreatic cancers and are considered to be uncommon. Metastases to the pancreas arise from various organ systems in the body, with a higher incidence observed from the lung, breast, kidney, and gastrointestinal tract. It may manifest years following the therapy of the underlying tumor. At the time of initial diagnosis, symptoms such as stomach discomfort, weight loss, and jaundice are evident. However, they can also be identified using radiologic imaging even in the absence of any noticeable symptoms. This article describes a case where renal cell carcinoma (RCC) spread to the pancreas 16 years after the first therapy. The metastasis was discovered incidentally using endoscopic ultrasound-guided fine-needle aspiration biopsy (EUS-FNAB).

Keywords: Biopsy, EUS, metastasis, RCC, pancreas

INTRODUCTION

The majority (95%) of pancreatic malignancies are classified as exocrine pancreatic tumors. Most exocrine pancreatic malignancies arise from the epithelium of the duct, and ductal adenocarcinoma is recognized as pancreatic cancer.[1] Pancreatic metastasis is an infrequent occurrence. Pancreatic metastases account for 2% of all pancreatic cancers.[2] The primary tumors typically include lung, breast, renal cell, malignant melanoma, gastrointestinal, prostate, and less commonly osteosarcoma, leiomyosarcoma, chondrosarcoma, and Merkel cell carcinoma.[3] We are discussing an individual who underwent a surgical procedure (left nephrectomy) to treat renal cell carcinoma (RCC). After a period of 16 years, endoscopic ultrasound-guided fine-needle aspiration biopsy (EUS-FNAB) was performed and it revealed the presence of renal cell carcinoma (RCC) metastases in the pancreas.

CASE

A 61-year-old male patient was referred to our hospital for an EUS-FNAB of a mass in the tail of the pancreas. The lump was discovered incidentally during exams conducted at another medical facility. An abdominal computed tomography (CT) scan conducted at an external facility detected a highly vascular, 3.5 cm-sized mass in the pancreatic tail during the arterial phase. The physical examination yielded no notable findings save for the presence of left hemiplegia. The test results indicated a platelet count of 112.000 per microliter (µL). Standard biochemical tests, measurements of blood clotting, cancer antigen (CA 19-9), and carcinoembryonic antigen (CEA) levels were within normal range. The patient's medical background comprises a complete surgical removal of the left kidney as a result of RCC two decades ago, a surgical removal of a lobe of the left lung due to the spread of cancer, left-sided paralysis caused by a blockage of blood flow to the brain three years ago, and a diagnosis of diabetes mellitus. The patient was admitted to our clinic. The linear endoscopic ultrasound (EUS) examination detected a 3.5-cm-diameter mass in the tail of the pancreas. The mass appeared to be heterogeneous and had thin vascular structures surrounding the inferior vena cava (VCI). It was observed that the mass extended into the VCI, resembling either a mass or a tumor thrombus, as shown in the figure. Two EUS-FNAB procedures were conducted using a 22G needle. The biopsy findings indicated the presence of metastatic renal cell carcinoma. The patient's Memorial Sloan-Kettering Cancer Center score for metastatic RCC was 1, placing them in the intermediate risk group with a median follow-up period of 10 months. The patient was released with a scheduled appointment for medical oncology follow-up.

Figure. RCC metastasis in the tail section of the pancreas. EUS image of the patient

DISCUSSION

Pancreatic metastases are uncommon, comprising about 2% of all pancreatic cancers, while autopsy collections have reported rates as high as 12%.[2] The most prevalent types of cancer that spread to the pancreas are lung, breast, renal cell carcinoma, malignant melanoma, gastrointestinal cancers (including stomach, colon, rectum, and duodenum), prostate, and lymphoma. Osteosarcoma, leiomyosarcoma, and chondrosarcoma have lower reported rates of metastasis to the pancreas.[3]

Metastasis to the pancreas can either be without symptoms or result in symptoms such as stomach pain, loss of weight, nausea, jaundice, gastrointestinal bleeding, and blockage.[4] Pancreatic metastases can manifest in three distinct forms: 1) a solitary localized mass (50-73%), 2) diffuse enlargement of the pancreas (15-44%), and 3) numerous nodules in the pancreas (5-10%).

The spread of renal cell carcinoma (RCC) to the pancreas can occur several years following the surgical removal of the kidney. According to reports, 11% of patients who had a nephrectomy for renal cell carcinoma (RCC) experienced pancreatic metastasis within 10 years. Additionally, one patient acquired pancreatic metastasis after a period of 32 years.[5] Colorectal, stomach, and lung metastases appear to have reduced blood supply on arterial phase imaging in CT scans, while neuroendocrine tumors, hepatocellular carcinoma (HCC), and renal cell carcinoma (RCC) metastases appear to have increased blood supply2. When a hypervascular abnormality is identified in the pancreas on CT scan, it is important to investigate vascular abnormalities (such as splenic artery aneurysm) and the presence of an additional spleen within the pancreas as potential causes, in addition to the possibility of malignancies.[6] To get a histopathologic diagnosis, either an EUS-FNAB or a percutaneous biopsy can be performed.

No renal cell carcinoma (RCC), other primary malignancies, accessory spleen, or aneurysm were seen in our patient's other kidney based on imaging. The presence of RCC metastases was established using EUS-FNAB.

CONCLUSION

When determining the nature of a pancreatic tumor, it is crucial to search for synchronous or metachronous metastases. This is particularly crucial in those with a history of cancer, and appropriate testing should be scheduled accordingly. For these patients, it is advisable to consider EUS-FNAB due to its reliability and excellent diagnostic accuracy.

ETHICAL DECLARATIONS

Informed Consent: All patients signed and free and informed consent form.

Referee Evaluation Process: Externally peer-reviewed.

Conflict of Interest Statement: The authors have no conflicts of interest to declare.

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