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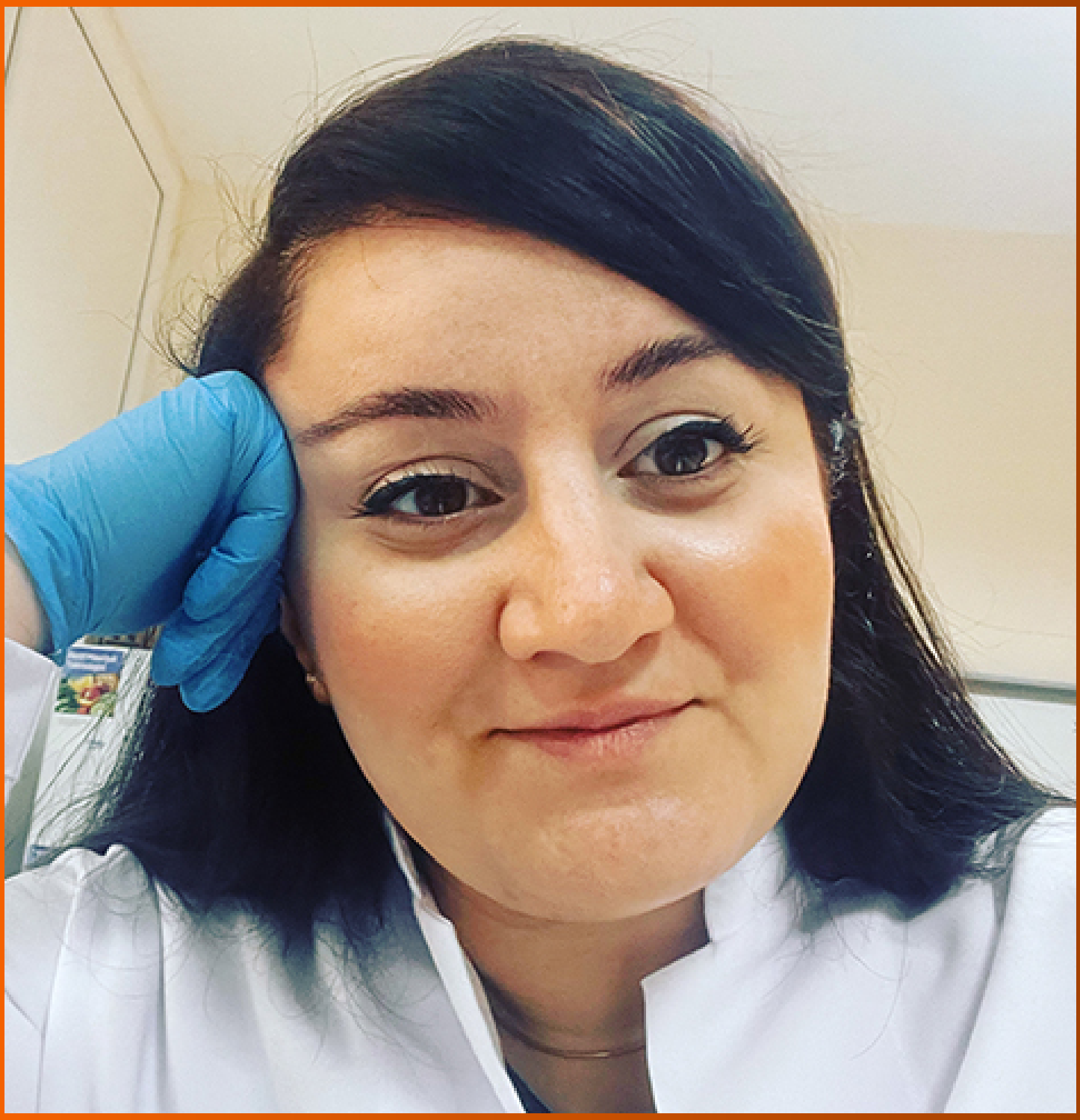

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EDITORIAL

Solid pancreatic masses: What's hidden beneath? Insights into rare pancreatic lesions

Daniel Vasile Balaban

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Abstract

The diagnostic approach to solid pancreatic masses has significantly evolved from the era when a focal pancreatic mass was almost synonymous to pancreatic ductal adenocarcinoma, to a wide spectrum of pancreatic lesions, some of which have good prognosis. With the advent of advanced diagnostic tools, particularly refined imaging and tissue acquisition techniques, a broader spectrum of differential diagnoses has been recognized, encompassing conditions ranging from neuroendocrine tumors or inflammatory masses, to rare entities like metastatic clear cell sarcoma or solitary fibrous tumors. We herein discuss case reports of some rare pancreatic lesions, which were diagnosed by combining clinical and imaging features and endoscopic ultrasound-guided tissue sampling and confirmed on surgical specimens. Further reports on these rare pancreatic tumors will contribute to a better understanding of their pathogenesis and effective management.

Key Words: Pancreatic mass; Pancreas; Metastasis; Diagnosis; Endoscopic ultrasound

Core Tip: The diagnostic landscape for solid pancreatic masses has expanded beyond the traditional assumption of pancreatic ductal adenocarcinoma and few other more common lesions. Advancements in imaging, tissue sampling, and histopathological techniques, have unveiled a wide spectrum of pancreatic lesions, including rare tumors. In this editorial, we comment on case reports of some rare pancreatic lesions, such as metastatic clear cell sarcoma of the pancreas and pancreatic solitary fibrous tumor, emphasizing the importance of a comprehensive diagnostic approach integrating medical history, cross-sectional imaging, and endoscopic ultrasound-guided tissue sampling.

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INTRODUCTION

In the landscape of pancreatic pathology, the diagnosis of focal pancreatic masses has undergone tremendous progress in the last years. While a few decades ago, the presence of a focal mass in the pancreas was almost synonymous to a diagnosis of pancreatic ductal adenocarcinoma (PDAC), nowadays we have a wide spectrum of differential diagnoses for solid pancreatic tumors. This historical perspective was largely due to the limited diagnostic tools at that time, which led to PDAC often being considered the primary, if not sole, diagnosis in front of a pancreatic mass. Indeed, PDAC accounts for most of these lesions, but we can encounter other diagnoses such as neuroendocrine tumors, autoimmune pancreatitis, metastasis, lymphoma, inflammatory masses, tuberculosis, acinar cell carcinoma, pancreatoblastoma, and other rare tumors[1]. While PDAC is well known for its aggressive tumor biology and poor prognosis, there are particular histological variants and also non-PDAC lesions associated with better outcomes[2].

Advancements in imaging techniques, consisting in refinement of cross-sectional imaging and the development and large-scale use of endoscopic ultrasound (EUS), have unveiled a wide spectrum of solid pancreatic masses. In the era of EUS, with enhanced imaging techniques and tissue acquisition by means of fine needle aspiration or fine needle biopsy (FNB), we can secure the diagnosis for a focal pancreatic lesion with high accuracy. In a recent meta-analysis, EUS-FNB has been shown to have a 93.1% sensitivity and 100% specificity in the diagnosis of pancreatic cancer[3].

REPORTS ON RARE PANCREATIC LESIONS

In light of these introductory remarks, we highlight on some case reports published in *World J Clin Cases*. First, there is a case report on metastatic clear cell sarcoma (CCS) of the pancreas, by Liu *et al*[4], which describes a rare case of CCS with pancreatic metastasis. While CCS is known to metastasize to the lungs, bones, and brain, pancreatic involvement is infrequent, as is primary pancreatic CCS. The authors highlight the relevance of the past medical history of the patient in defining the diagnosis and present the therapeutic strategy, consisting in distal pancreatectomy with splenectomy. While CCS bears a poor prognosis, obtaining negative margins on the surgical specimen for the pancreatic tumor in the reported case is of paramount importance from an oncologic perspective. Another point made by the authors is regarding the requirement of long-term follow-up of patients with CCS, as metastasis can occur late.

In cases of suspected pancreatic metastasis, a thorough medical history, along with careful physical examination, is a very important prerequisite for imaging and histology confirmation of a clinically suspected secondary pancreatic tumor. The most common primary tumor that metastasizes to the pancreas is renal cell carcinoma, with a particular good prognosis, followed by colorectal cancer, melanoma, breast cancer, and lung cancer[5,6]. While pancreatic metastasis can be asymptomatic and detected incidentally on imaging during oncologic follow-up for the primary tumor, they can become clinically manifest as in the case report by Liu *et al*[4]. Differential diagnosis is based on imaging features and enhancement patterns and is confirmed by histopathological sampling. EUS-guided tissue acquisition has a proven high accuracy in diagnosing pancreatic metastasis, particularly with the procurement of core tissue using FNB needles[6].

Another rare lesion encountered in the pancreas is solitary fibrous tumor, as presented in the case by Wang *et al*[7]. The solitary fibrous tumor is of mesenchymal origin, primary located in the pleura, but can develop in extrapleural sites also. In contrast with the previous case, the patient presented by Wang *et al*[7] did not have any complaints, and was detected with a pancreatic mass on physical examination, which was later confirmed by computed-tomography (CT). While the CT scan showed a mixed density mass, with differential diagnoses of a solid pseudopapillary tumor and neuroendocrine tumor, the definite diagnosis was obtained by EUS-FNB, with histopathology and immunohistochemistry confirming a solitary fibrous tumor. As some solid pancreatic masses have similar structure and enhancing patterns, imaging features alone cannot confirm the precise type of lesion, but can narrow the differential diagnosis, and in most cases tissue sampling is required for positive diagnosis and therapeutic decision. As in the previous case report, distal pancreatectomy with splenectomy, this time by laparoscopic approach, was carried out, without recurrence on follow-up imaging. The authors point out the specific immunohistochemistry profile of this rare pancreatic tumor, which prompts for differential diagnosis with other rare lesions such as sarcoma and neural or vascular tumors. Notably, another case of pancreatic solitary fibrous tumor, this time metastasizing from a primary tumor in the central nervous system, was also reported recently by Yi *et al*[8].

Due to the rarity of some pancreatic lesions as the ones presented, optimal management and follow-up are not standardized. Besides oncological surveillance, long-term morbidity after pancreatic resection, comprising pancreatic exocrine insufficiency and metabolic complications, should also be monitored.

CONCLUSION

Solid pancreatic masses are more than just PDAC and other more commonly encountered tumors. Variability in clinical presentation and imaging features, as well as the rarity of some lesions, makes it difficult to conclude a diagnosis. Good history taking, refined imaging, and EUS-guided tissue acquisition can accurately provide a preoperative definite diagnosis for focal pancreatic masses. Reports of cases of these rare pancreatic lesions will contribute to a better understanding of their biology and to developing effective therapeutic strategies.

FOOTNOTES

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