Radiology Case Reports 19 (2024) 6217–6219

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journal homepage: www.elsevier.com/locate/radcr

Case Report

A rare metastasis of an ovarian adenocarcinoma occurring 13 years later: A case report ☆

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ARTICLE INFO

Article history:
Received 1 September 2024
Accepted 5 September 2024

Keywords:
Ovarian carcinoma
Pancreas
Metastasis
Imaging
Asynchronous

ABSTRACT

The pancreas is a more common metastatic site for renal carcinoma; however, metastatic spread of ovarian carcinoma to the pancreas is very rare, with only a few sporadic cases published in the literature. The clinical presentation is usually dominated by epigastric pain. We report a rare case of pancreatic metastases occurring approximately 13 years after a bilateral hysterectomy with salpingo-oophorectomy for bilateral serous ovarian carcinoma.

Introduction

Malignant pancreatic tumors are predominantly primary in origin, with pancreatic metastases being much rarer, accounting for only 2% of cases [1]. These metastases most commonly arise in patients with a history of renal cell carcinoma, and less frequently from lung, breast, or colon cancers. The ovary is an exceptionally rare source of pancreatic metastasis. Here, we present an unusual case of pancreatic metastasis from high-grade serous cystadenocarcinoma, occurring 13 years after the initial diagnosis.

Case report

We report the case of a 65-year-old woman with a history of bilateral hysterectomy and salpingo-oophorectomy performed 13 years earlier for bilateral ovarian serous cystadenocarcinoma. She was admitted to our facility for the management of progressive epigastric abdominal pain, accompanied by a general deterioration in health, including a weight loss of approximately 12 kg over 3 months.

On admission, the patient was afebrile, pale, and hemodynamically stable. Clinical examination revealed diffuse

☆ Competing Interests: The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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https://doi.org/10.1016/j.radcr.2024.09.036

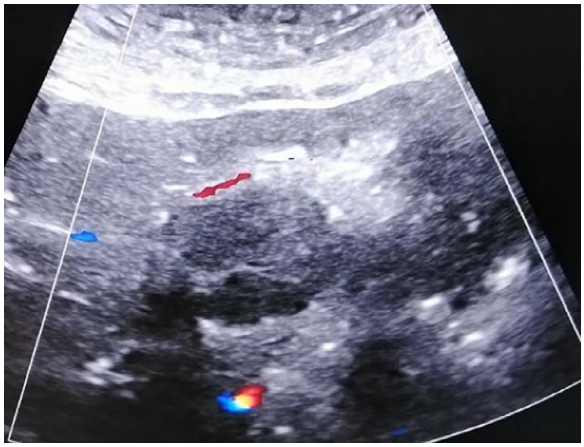

Fig. 1 – Ultrasound image showing a round, well-limited, lobulated, hypoechoic mass of the pancreatic body.

abdominal tenderness, more pronounced in the epigastric region, with palpation of a firm epigastric mass.

Laboratory tests revealed normochromic normocytic anemia with hemoglobin at 10 g/dL, and normal renal and liver function tests. Tumor marker analysis showed an elevated CA-125 antigen level at 540 U/mL, with the normal value being below 35 U/mL.

An abdominal ultrasound (Fig. 1) was performed, revealing a well-defined, rounded, hypoechoic mass in the body of the pancreas, with minimal color Doppler signal. A follow-up abdominopelvic CT scan in the pancreatic phase at 45 seconds revealed well-defined, rounded tissue nodules in the pancreas, involving the isthmus and body, with heterogeneous enhancement after contrast injection, without calcification or necrosis. Parenchymal atrophy of the pancreatic tail with ectasia of the distal Wirsung duct (Fig. 2) was observed, along with an empty uterine fossa (Fig. 3). No other secondary localizations were detected during this examination.

A pancreatic biopsy was performed under ultrasound guidance. Pathologic examination and immunohistochemical profiling confirmed the pancreatic localization of a high-grade serous ovarian carcinoma. The patient received doxorubicin-based chemotherapy, and the disease showed stable progression.

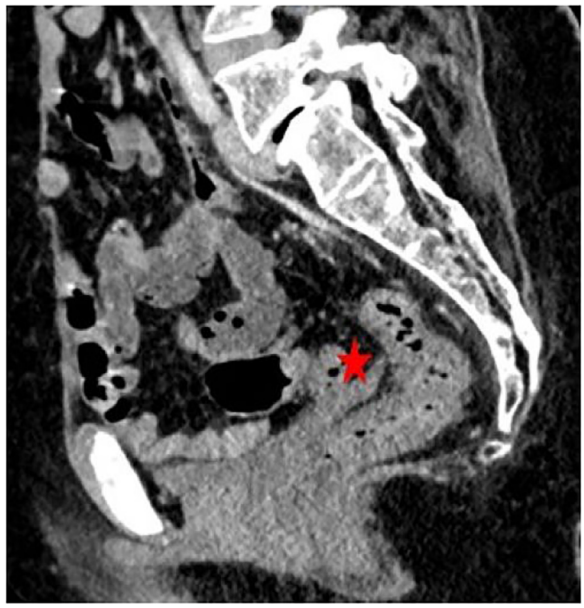

Fig. 3 – Sagittal section of a CT scan through the pelvis showing an empty uterine cavity.

Discussion

Pancreatic metastases originating from primary tumors outside the pancreas are rare. In a study of 1050 pancreatic lesion specimens, only 3.8% were metastatic tumors involving the pancreas [2]. Pancreatic metastases are more commonly observed in patients with renal cell carcinoma and melanoma, but other sources also include lung, breast, colon, liver, and gastrointestinal cancers [3–5].

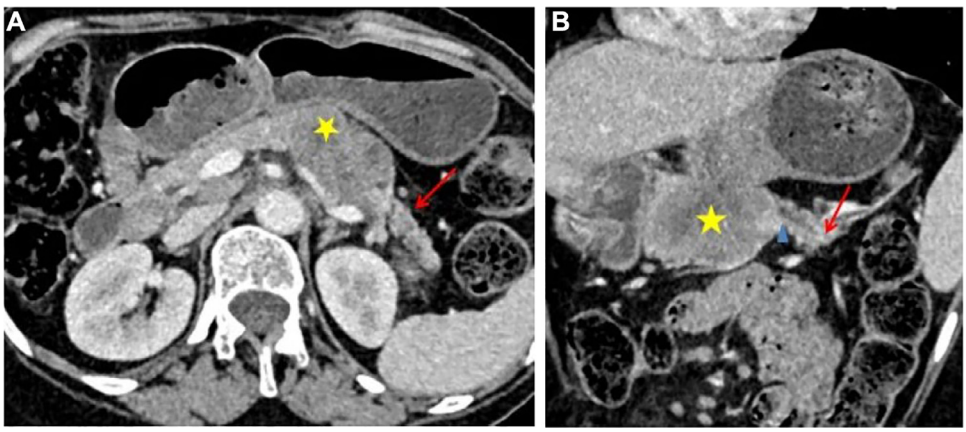

Fig. 2 – Abdominal CT scan with pancreatic arterial phase injection, in axial (Fig. A) and coronal (Fig. B) sections, revealing a heterogeneous tissue mass in the body of the pancreas measuring 4 cm in greatest diameter (yellow star). Associated findings include atrophy of the upstream tail (red arrow) and ectasia of the distal Wirsung duct (bleu red arrow head).

Ovarian carcinomas are very rarely metastatic to the pancreas. In a study by Francesco et al., among 333 cases of pancreatic metastases, an ovarian origin was reported in only 8 patients, or 2% [6].

However, in cases of advanced ovarian cancer, the incidence of pancreatic metastases may be higher than reported. In an autopsy study of 100 patients with ovarian cancer, 21% of patients had metastases to the pancreas [7].

Pancreatic metastases can be detected either synchronously or metachronously. In a study of 246 cases, 55 (22.4%) had synchronous pancreatic metastases, while 77.6% were metachronous, with an average latency of 9.2 years between the diagnosis of the primary tumor and the detection of the pancreatic metastasis [6]. In our case, there was a 13-year interval between the diagnosis of the primary tumor and the detection of the pancreatic metastasis.

Pancreatic metastases can arise from direct extension from the retroperitoneum, mesenteric adenopathy, or, less commonly, from a solitary pancreatic localization [8]. In our case, the most probable cause is direct retroperitoneal extension, given the patient's previous history of peritoneal carcinomatosis.

Imaging is typically not helpful in distinguishing between primary and secondary pancreatic tumors. However, these tumors can present in various forms: solitary (78.8%), multiple (16.7%), or diffuse (4.5%). They may appear rounded or oval, with well-defined or lobulated edges, or they may have indistinct margins [9].

Pancreatic metastases most commonly appear as solid hypervascular masses, accounting for 76% of cases. These masses may enhance homogeneously (16.9%) or heterogeneously (59.1%) after contrast injection, though they can also be hypovascular in 19.5% of cases. Cystic or predominantly cystic metastases are also not uncommon [9].

Metastases are often found in the head or body of the pancreas, with sizes ranging from 1.8 to 4 cm [10]. In a study by Katherine A et al., ductal compression with biliary dilation was observed in 37.9% of patients with pancreatic metastases, all of whom had tumors in the pancreatic head. However, biological cholestasis is less common [9]. In our case, the tumor was located in the body of the pancreas and did not cause ductal dilation.

Due to the low incidence of pancreatic metastases, a secondary origin is rarely considered. However, histological confirmation through biopsy is essential to distinguish between primary and secondary tumors [11]. In our case, the patient underwent a biopsy under ultrasound guidance. Differentiating between primary and secondary pancreatic tumors is crucial for determining the appropriate treatment approach, including chemotherapy and surgery. Resection of pancreatic metastases is a palliative procedure that can be considered if feasible [12].

Conclusion

Pancreatic tumors are rarely metastatic, making histological confirmation essential to distinguish between primary and secondary tumors. Metastasis of serous cystadenocarcinoma from the ovary to the pancreas is exceedingly rare. Tumor markers, pathological results, and consideration of a secondary tumor are crucial for avoiding diagnostic errors and delays in treatment when a new pancreatic mass is discovered.

Author contribution

All the authors contributed to study concept, data analysis and writing the paper.

Patient consent

Written informed consent for the publication of this case report was obtained from the patient.

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