Original Research Paper

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General Surgery

PANCREATIC CANCER ACCOMPANIED BY A MODERATE-SIZED PSEUDOCYST

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ABSTRACT Pancreatic cancer presenting concurrently with a moderate-sized pseudocyst is a clinical rarity that poses significant diagnostic challenges. The presence of a pseudocyst can often obscure the underlying pancreatic parenchyma, complicating the preoperative identification of malignancies through imaging. Despite considerable advancements in diagnostic imaging technologies, there remains a notable difficulty in distinguishing cystic pancreatic lesions from pancreatic adenocarcinoma prior to surgery. This case report details the clinical journey of a 61-year-old female who exhibited symptoms such as epigastric pain, vomiting, constipation, and jaundice, without a prior history of alcohol use or pancreatitis. Diagnostic modalities, including ultrasonography, endoscopy, and contrast-enhanced computed tomography (CECT), were employed, revealing a periampullary mass and subsequent biopsy confirmed moderately differentiated adenocarcinoma. Challenges arose due to the pseudocyst's compression on the pancreatic tissue, which initially disguised the malignant nature of the underlying lesion. The complex interplay between the pseudocyst and the carcinoma underscored the necessity for meticulous diagnostic scrutiny and strategic surgical planning. The findings from this case emphasize the need for heightened clinical vigilance and a comprehensive approach in the evaluation of pancreatic lesions, particularly when classical symptoms of pancreatic pathology are accompanied by cystic abdominal structures.

KEYWORDS :

INTRODUCTION:

Pancreatic cancer is a leading cause of cancer-related mortality worldwide, often presenting insidiously and diagnosed at an advanced stage due to its vague and nonspecific initial symptoms. The coexistence of pancreatic cancer with a pseudocyst represents an even more complex clinical scenario, as pseudocysts are typically associated with pancreatitis rather than neoplasia. The occurrence of a moderate-sized pseudocyst alongside pancreatic cancer is exceptionally rare, with few such cases documented in medical literature [1].

Pseudocysts are fluid collections enclosed by a wall of fibrous or granulation tissue, which arise due to pancreatitis or pancreatic injury, but when they present with pancreatic cancer, the usual inflammatory pathways and clinical expectations are altered [2]. In such instances, the pseudocyst can exert a mass effect, distorting the surrounding pancreatic parenchyma and complicating the interpretation of imaging studies. This diagnostic dilemma is exacerbated by the fact that pseudocysts can mimic the appearance of cystic neoplasms of the pancreas on imaging, leading to potential misdiagnosis [3].

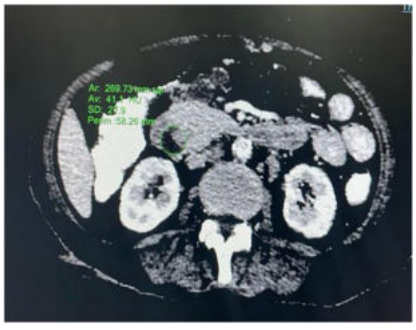
Advancements in imaging technology have vastly improved our ability to characterize pancreatic lesions; however, the differentiation between inflammatory cystic lesions and cystic neoplasms—or indeed a neoplasm with secondary cystic changes—remains a clinical challenge. Accurate preoperative diagnosis is critical, as it influences both prognosis and the therapeutic approach, including the need for surgical intervention [4].

This case report explores the intricacies of diagnosing pancreatic cancer in the context of a concomitant moderate-sized pseudocyst. It underscores the necessity of considering pancreatic cancer in the differential diagnosis of cystic pancreatic lesions, especially in the absence of a clear history of pancreatitis or when typical imaging findings are confounded by the presence of a pseudocyst [5].

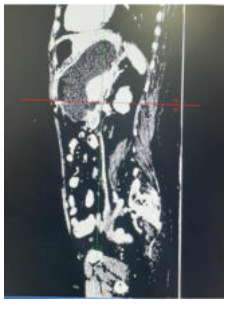
Case Presentation:

A 61-year-old woman with no history of alcohol consumption or chronic pancreatitis presented with symptoms of epigastric abdominal pain, vomiting, constipation, and jaundice. Initial abdominal ultrasonography revealed a periampullary mass lesion with dilated common bile duct (CBD) and main pancreatic duct (MPD), indicative of the double duct sign—a hallmark of periampullary tumors. Side-view endoscopy identified a periampullary growth, and a biopsy from this region confirmed moderately differentiated adenocarcinoma [6].

Further imaging with contrast-enhanced computed tomography (CECT) of the abdomen disclosed an enhancing soft tissue lesion at the ampulla of Vater, measuring 10 x 8mm, along with findings suggestive of necrotizing pancreatitis and an acute necrotic collection. The patient's total and direct bilirubin levels were elevated, indicating biliary obstruction [7].



Given these findings, the patient underwent an endoscopic retrograde cholangiopancreatography (ERCP) during which a CBD stent was placed to alleviate the obstruction. Subsequently, she was scheduled for a Whipple procedure. Intraoperative findings included a periampullary carcinoma and a pancreatic pseudocyst with approximately 400cc of fluid collection, with the previously placed CBD stent in situ [8].



DISCUSSION:

The intersection of pancreatic cancer with a pseudocyst is a clinical curiosity with significant ramifications for diagnosis and treatment. Pancreatic pseudocysts are conventionally linked to inflammatory conditions, most notably pancreatitis, rather than malignancy. The coexistence of a pseudocyst with pancreatic cancer, as in the case of our 61-year-old patient, raises important diagnostic concerns. This juxtaposition is rarely encountered in clinical practice and has been

infrequently described in the literature, making each case invaluable for expanding our understanding of such presentations [9].

In the clinical setting, the symptoms of pancreatic cancer can be non-specific and are often masked by overlapping signs of accompanying conditions, such as pseudocysts. This case illustrates the complexity of reaching a definitive diagnosis when conventional imaging modalities encounter limitations. Although advanced imaging techniques such as Endoscopic Ultrasound (EUS) and Magnetic Resonance Imaging (MRI) can offer superior characterization of pancreatic lesions, they may still be insufficient in differentiating inflammatory pseudocysts from cystic neoplasms or identifying underlying malignancies when obscured by inflammatory processes [10].

The role of endoscopic techniques, including ERCP and EUS-guided fine needle aspiration (FNA), is pivotal in such cases. These modalities not only aid in the relief of obstructive jaundice through stenting but also provide a means for tissue diagnosis. However, in this case, the presence of a moderate-sized pseudocyst presented a unique challenge, as the mass effect imposed by the pseudocyst could potentially distort the anatomy and obscure the endoscopic view [11].

From a surgical perspective, the Whipple procedure remains the cornerstone of curative intent treatment for periampullary cancers. The presence of a pseudocyst adds to the complexity of the surgical procedure, necessitating careful dissection and an understanding of altered anatomical planes. As demonstrated in this patient, successful surgical resection requires meticulous preoperative planning and intraoperative navigation to manage both the neoplastic process and the associated pseudocyst [4].

In terms of prognosis, the concomitant presentation of a pseudocyst with pancreatic cancer may not necessarily indicate a more advanced stage of cancer; rather, it suggests a unique pathological process that may not have been precipitated by the typical etiologies of pseudocysts, such as pancreatitis or trauma. This case emphasizes the need for careful histopathological examination of resected specimens, which can provide insights into the etiology and nature of the pseudocyst and its relationship with the pancreatic cancer [1].

In conclusion, this case report sheds light on the diagnostic challenge and management complexities posed by the presence of a moderate-sized pseudocyst in a patient with pancreatic cancer. It underscores the importance of a high index of suspicion and the integration of multidisciplinary diagnostic approaches, including advanced imaging and endoscopic techniques, to accurately characterize and treat such unusual presentations.

CONCLUSION:

The occurrence of pancreatic cancer in conjunction with a moderate-sized pseudocyst is a rare and perplexing clinical scenario, with significant implications for diagnosis and management. Our report of a 61-year-old woman with this presentation illuminates the challenges faced in distinguishing pancreatic cancer from benign cystic conditions, particularly when traditional imaging is confounded by the presence of a pseudocyst.

The case underscores the necessity of a thorough and nuanced approach to the evaluation of pancreatic lesions. When patients present with pancreatic cysts alongside normal tumour markers and lack a history of pancreatitis, clinicians must maintain a high index of suspicion for malignancy. Subtle clinical findings such as slight pancreatic duct dilation can serve as vital diagnostic clues and should prompt further investigation.

This report also reiterates the role of comprehensive imaging and histological assessment in the diagnosis of pancreatic lesions. While advanced imaging techniques have greatly improved our ability to visualize pancreatic pathology, they are not infallible. As demonstrated, integrating imaging results with clinical findings and histopathology is essential for forming an accurate diagnosis.

From a surgical perspective, the intricate relationship between pancreatic pseudocysts and cancer necessitates meticulous preoperative planning and careful intraoperative technique. The successful management of our patient through ERCP and the Whipple procedure highlights the importance of a collaborative, multidisciplinary approach to such complex cases.

Moving forward, it is imperative for such rare cases to be documented and shared within the medical community. They contribute to a broader understanding of pancreatic pathology and help refine diagnostic and management strategies for similar future cases. Continued reporting will also aid in the development of guidelines to approach the diagnosis and treatment of pancreatic lesions effectively, ultimately improving patient outcomes in these challenging scenarios.

In conclusion, the confluence of pancreatic cancer and pseudocyst, while rare, provides a critical reminder of the variability of pancreatic disease presentations and the need for careful diagnostic and therapeutic deliberation.

Conflicts of interest

The authors declare no conflicts of interest.

Footnotes

This study was carried out at the Mathura Das Mathur Hospital, Jodhpur, Rajasthan, India.

Ethics Statement: The authors retain informed consent signed by the patient for authorizing the data publication and the manuscript is as by the Institutional Ethics Committee rule.

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