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Case Report

Giant Serous Cystadenoma of The Pancreatic Tail: Diagnostic Significance of CT Scanning in a Rare Case

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Abstract

Giant serous cystadenoma (SCA) of the pancreas is a rare benign tumor that typically remains asymptomatic and undetected until it reaches a considerable size, highlighting the diagnostic challenge in differentiating it from other pancreatic cystic lesions. This study seeks to present an uncommon instance of giant pancreatic SCA and underscore the diagnostic and therapeutic methodology. A case report design was used involving a 35-year-old female patient presenting with a painless epigastric mass without associated gastrointestinal or systemic symptoms. Physical examination revealed a firm, non-tender mass in the left upper abdomen. Diagnostic imaging using contrast-enhanced computed tomography (CT) identified a 15 cm multiloculated cystic lesion with thin septations and central calcifications in the body and tail of the pancreas. Surgical intervention consisted of distal pancreatectomy and splenectomy. Histopathological examination confirmed a diagnosis of serous cystadenoma confined to the pancreatic tail, characterized by multiple cystic spaces lined with cuboidal epithelium and clear cytoplasm. The patient experienced an uneventful recovery and was discharged on the fifth postoperative day. This case underscores the critical role of radiologic evaluation in differentiating SCAs from other cystic lesions such as pseudocysts and mucinous cystadenomas to support accurate preoperative planning. The findings suggest that, despite their benign nature, early recognition and surgical management of large SCAs are essential to preventing complications, and improved awareness is needed to enhance diagnostic accuracy and avoid overtreatment or delayed intervention.

Keywords: Computed tomography; Mucinous cystadenoma; Neoplastic pancreatic cyst; Pancreatic cyst; Serous cystadenoma.

الورم الكيسي المصلي العملاق لذيل البنكرياس: الأهمية التشخيصية لفحص الأشعة المقطعية في حالة نادرة

الخلاصة

الورم الكيسي المصلي العملاق (SCA) في البنكرياس هو ورم حميد نادر يبقى عادة بدون أعراض وغير مكتشف حتى يصل إلى حجم كبير، مما يبرز التحدي التشخيصي في تمييزه عن آفات البنكرياس الكيسية الأخرى. تسعى هذه الدراسة إلى تقديم حالة نادرة من SCA العملاق في البنكرياس وتسليط الضوء على المنهجية التشخيصية والعلاجية. تم استخدام تصميم تقرير حالة يتضمن مريضة تبلغ من العمر 35 عاما تظهر بكتلة فوق المعدة بدون ألم دون أعراض هضمية أو جهازية مرتبطة. كشف الفحص الطبي عن كتلة صلبة وغير مؤلمة في الجزء العلوي الأيسر من البطن. حدد التصوير التشخيصي باستخدام التصوير المقطعي المحوسب المعزز بالتباين آفة كيسية متعددة المكونات بحجم 15 سم مع شقوق رفيعة وتكلسات مركزية في جسم وذيل البنكرياس. تضمن التدخل الجراحي استئصال البنكرياس البعيد واستئصال الطحال. أكد الفحص النسيجي المرضي تشخيص وجود ورم كيسي مصلي محصور في ذيل البنكرياس، يتميز بوجود فراغات كيسية متعددة مبطنة بظهارة مكعبية وسيتوبلازم شفاف. شهدت المريضة تعافيا هادئا وتم إخراجها في اليوم الخامس بعد العملية. تؤكد هذه الحالة الدور الحاسم للتقييم الإشعاعي في التمييز بين SCAs وآفات الكيسية الأخرى مثل الأكياس الكاذبة والأورام الكيسية المخاطية لدعم التخطيط الدقيق قبل الجراحة. تشير النتائج إلى أنه رغم طبيعتها الحميدة، فإن التعرف المبكر والإدارة الجراحية لمناطق SCA الكبيرة ضرورية لمنع المضاعفات، وأن هناك حاجة إلى تحسين الوعي لتعزيز دقة التشخيص وتجنب الإفراط في العلاج أو التأخير في التدخل.

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INTRODUCTION

Serous cystadenomas (SCAs) of the pancreas are frequently identified incidentally due to their typically asymptomatic nature. In a few cases, patients may experience nonspecific abdominal discomfort, unexplained weight loss, or symptoms resulting from the compression of neighboring anatomical structures. SCAs represent an uncommon pathology, constituting approximately 1% to 2% of all tumors originating from the pancreatic exocrine tissue [1]. According to a retrospective review from Massachusetts General Hospital covering the years 1978 to 2011, SCAs accounted for 16% of the 851 pancreatic cystic neoplasms that underwent surgical resection [2]. Small-sized SCAs are often asymptomatic and demonstrate a very low potential for malignancy; therefore, a conservative approach is generally favored in managing such lesions [3]. Accurate differentiation between pancreatic pseudocysts, SCA, and mucinous cystic neoplasms remains critical, as each entity necessitates a tailored surgical strategy. Cross-sectional imaging, particularly computed tomography (CT), serves as a valuable tool in distinguishing among these cystic pancreatic lesions. Considering the infrequency of this condition and the complexities

involved in its clinical assessment and surgical planning, this report aims to discuss a rare instance of a sizable SCA manifesting as a palpable abdominal mass in a 35-year-old woman, including her symptoms, examination results, treatment, and recovery, to help improve awareness and decision-making in similar cases.

Case Presentation

On October 29, 2020, a 35-year-old woman was admitted to St. Elizabeth Hospital, Semarang, Indonesia, with complaints of progressive abdominal bulging and early satiety for two months, but no pain, fever, or prior trauma. On examination, a fixed, non-tender cystic mass was palpable in the left upper quadrant, with no hepatosplenomegaly. Routine laboratory tests, including liver and renal function, electrolytes, amylase, lipase, and glucose, were normal. Abdominal CT revealed a well-defined, multiloculated cystic lesion in the body and tail of the pancreas, measuring up to 15 cm, with thin septations and central calcification, displacing adjacent structures without invasion (Figure 1).

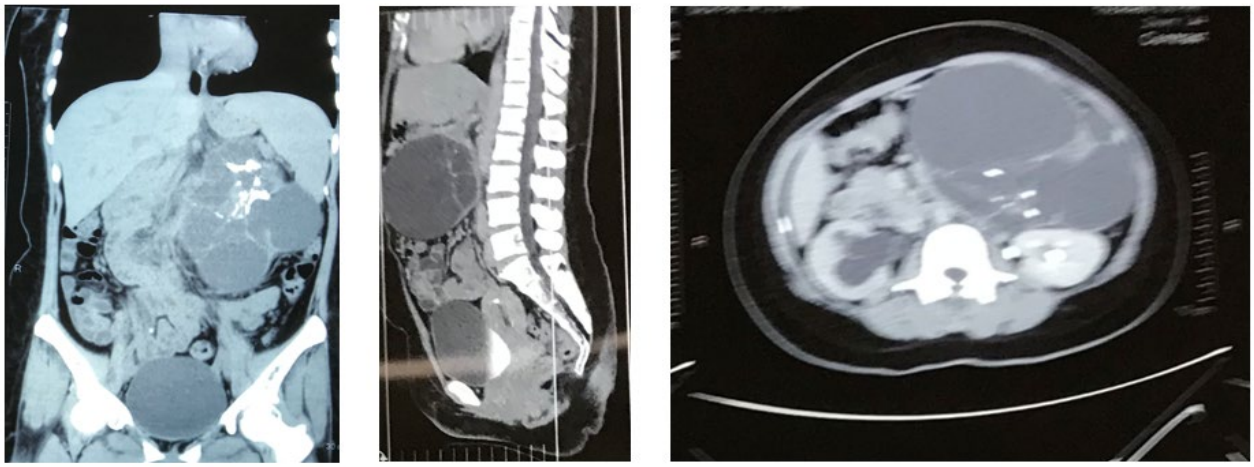

Figure 1: Contrast-enhanced abdominal CT scan, displaying coronal, sagittal, and axial views, reveals a cystic loculated mass in the body and tail of the pancreas, featuring central calcification and a stellate scar.

A small right renal simple cyst was also noted. The patient underwent distal pancreatectomy with splenectomy. The gross specimen demonstrated a large multiloculated cyst with thin walls (Figure 2A and B). Microscopic examination showed a cuboidal epithelial lining with clear cytoplasm, confirming serous cystadenoma (Figure 2C). The postoperative course was uneventful. The patient was discharged on the fifth postoperative day and remained healthy without recurrence at a three-month follow-up.

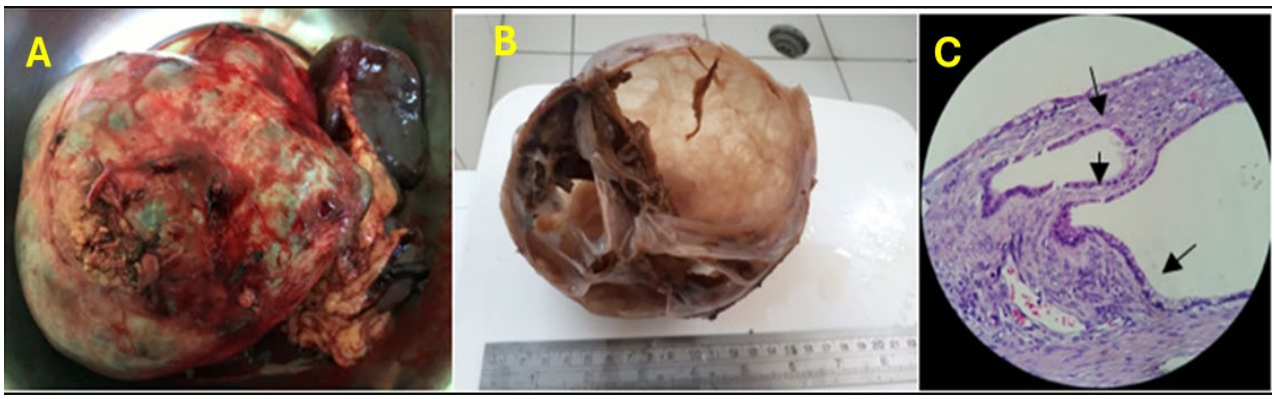

Figure 2: A gross specimen from distal pancreatectomy and splenectomy (A) shows a multiloculated cystic mass with a thin wall (B) and a single layer of cuboid epithelium lining in the microscopic view (black arrow) (C).

DISCUSSION

Pancreatic cysts are diverse, including pseudocysts, mucinous neoplasms, and serous cystadenomas (SCAs), each requiring different management strategies [1]. Distinguishing SCAs from other cystic lesions is often difficult, but imaging features are crucial. On CT, SCAs typically appear as lobulated, multiloculated cysts with thin septations and a central stellate scar with calcification [2,3]. These features help differentiate them from mucinous cystic neoplasms, which often have mural nodules and peripheral calcification [4]. Giant SCAs, defined as lesions ≥10 cm, are very rare and may cause mass effect symptoms despite their benign nature [2]. Lesions larger than 4 cm are more likely to grow or become symptomatic, and resection is recommended even without definitive malignant features [5].

Although the malignant potential of SCA is extremely low, rare cases of serous cystadenocarcinoma have been reported [6]. In the present case, the patient's 15 cm tumor presented with epigastric bulging and early satiety. The CT findings were consistent with SCA, guiding surgical planning. Distal pancreatectomy with splenectomy was chosen because of the tumor's size and diagnostic uncertainty. However, this case has several limitations. Preoperative evaluation relied mainly on CT imaging, and additional modalities such as magnetic resonance imaging (MRI) or endoscopic ultrasonography (EUS) were not performed to further characterize the cyst and strengthen the assessment of its benign nature. In addition, the CT report did not provide detailed information regarding splenic vessel encasement. Therefore, although distal pancreatectomy with splenectomy was performed in this case, the possibility of a spleen-preserving distal pancreatectomy could not be fully evaluated preoperatively. Histopathology confirmed benign SCA, and recovery was uneventful. This case highlights the diagnostic value of CT in differentiating SCAs from other cystic pancreatic lesions, as well as the importance of considering resection in large or symptomatic tumors. Early recognition and appropriate management can prevent complications and ensure favorable outcomes.

Conflict of interests

The authors declared no conflict of interest.

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Data sharing statement

The data that supports the findings of this study are available from the corresponding author upon a reasonable request.

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