Case Report

Radiological diagnosis of rare pancreatic serous cystadenoma

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Abstract

Serous cystadenoma of the pancreas, also known as microcystic adenoma, is a very rare type of pancreatic neoplasm. It is a benign cystic lesion. It is composed of many small cysts lined by cuboidal or flattened cells containing glycogen. Herein, we report a rare case of serous cystadenoma of the pancreas in an 82-year-old male. The tumor was located in the body and tail of the pancreas and postoperative sample revealed a sponge-like appearance due to multiple tiny cysts containing clear serous fluid. Microscopic analysis showed cystic spaces lined by cuboidal cells with intracytoplasmic glycogen.

Keywords: Microcystic adenoma, pancreas, serous cystadenoma

Introduction

Serous cystadenoma of pancreas accounts for more than half of cyst forming neoplasms and has been increasingly recognized with advancement of clinical imaging evaluations.[1] Patients usually (61%) do not exhibit relevant clinical symptoms but may develop symptoms as the tumors grow larger.[2] It usually presents in middle age to elderly patients (>60 years of age).[3] It is composed of numerous small cysts that are arrayed in a honeycomb-like formation.[3] In the largest series, they were found in the head/uncinate process 40% of the time, body 34%, and tail 26%. Ultrasound study shows nonspecific hypoechoic mass in the pancreatic head region, possibly with internal echoes indicating microcysts (the oligocystic subtype may demonstrate individually identifiable cysts).[4] Computed tomography (CT) typically demonstrates a multicystic, lobulated mass in the pancreas, sometimes described as a "bunch of grapes." A characteristic enhancing central scar may be present which can show associated stellate calcification (present in ~20% of cases).[3]

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Case Report

An 82-year-old male patient presented with complaints of pain and lump in epigastric region. Routine hematological investigations revealed Hb 10 gm/dl, TLC 5,000/mm3, DLC (N 56, L 40, M 3, E 1, B0), ESR 10 mm/h, fasting blood sugar 75 mg/dl, serum amylase 120 U/L, and CA 19-9: 21 U/ml and all were within normal limits. Ultrasound showed a well-defined, multiloculated, cystic mass with internal septations involving the body and tail of pancreas, completely replacing the normal pancreatic tissue [Figures 1 and 2]. Contrast enhanced CT scan showed a large, well-defined, multiloculated, mixed solid and cystic mass of size 8.0 × 5.5 cm, showing enhancing internal septations and cyst walls, producing a typical Swiss cheese and/or honeycombing appearance, in body and tail of pancreas, completely replacing the normal pancreatic tissue. There was central stellate calcification within the lesion [Figures 3 and 4]. Percutaneous aspiration of cystic fluid was done under ultrasound guidance and intracystic CEA was found to be low (18 ng/ml). The radiological and biochemical findings confirmed the preoperative diagnosis of a serous cystadenoma involving the body, tail of pancreas, and sparing the head. Therefore, distal pancreatectomy was done. Histology of resected specimen revealed a multicystic lesion.

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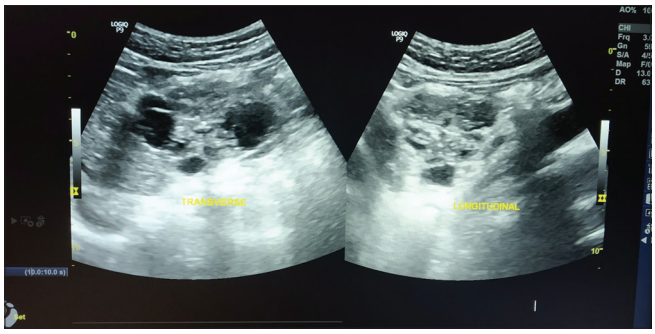

Figure 1: Transabdominal ultrasound showing the transverse and longitudinal images of a multicystic lobulated lesion arising from the body of the pancreas

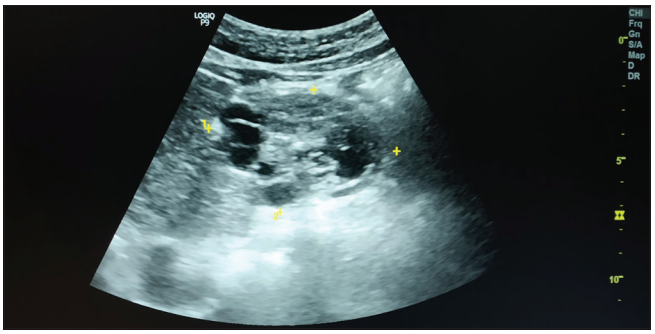

Figure 2: Transabdominal ultrasound showing the anteroposterior (5.3 cm) and transverse (7.7 cm) measurements of the lesion. The size of the cysts varied from 5 mm to 26 mm. A central calcified focus with posterior acoustic shadowing is seen within the mass

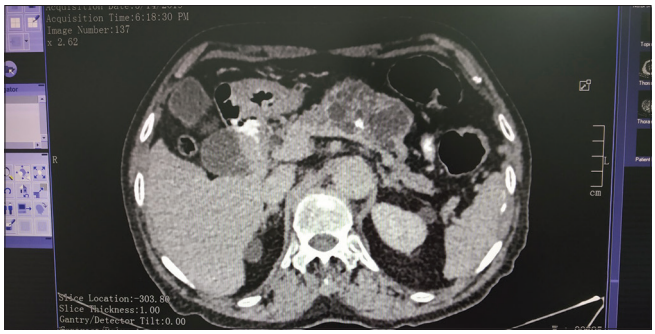

Figure 3: Axial section of the contrast enhanced computed tomography of the abdomen showing multicystic lesion arising from the body of the pancreas with enhancing septae and central stellate calcification

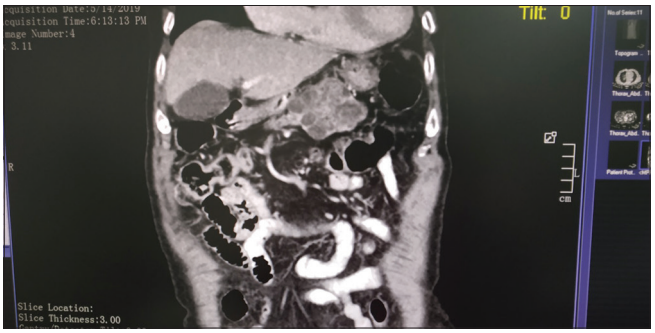

Figure 4: Coronal section of the contrast enhanced computed tomography of the abdomen showing the same lesion and its relation to the surrounding structures. The lesion is well defined and all the fat planes with adjacent structures are maintained

The cysts are variable in size and are lined by cuboidal cells and supported by myoepithelial cells at places. The cuboidal cells have PAS-positive cytoplasm (glycogen rich). No evidence of malignancy was seen. Pancreatic ducts and atrophic acini are present in the cyst walls at places.

Discussion

About 94% of exocrine epithelial tumors of pancreas are ductal adenocarcinoma. The remaining 6% is constituted by solid pseudopapillary, serous cystic, and mucin producing forms.[5] The neoplastic cysts of pancreas are estimated to account for at least 10% of pancreatic cysts.[6] They are seen almost exclusively after 35 years of age and 82% occurs after 60 years of age.[6] Sonographically, the lesions may appear as solid echogenic mass secondary to myriad of interfaces produced by the numerous microscopic cysts or may appear as a multilocular cyst or a mixed solid and cystic lesion.[7,8] On nonenhanced CT, they appear as hypodense, near water attenuation masses that frequently show calcifications.[6] A central stellate scar that may calcify is seen in upto 20% of cases.[6] The tumor is hypervascular and contrast enhancement of septations results in a typical "Swiss Cheese" and/or honey combing appearance due to the presence of multiple tiny cysts.[8,9] Differential diagnostic features that help in distinguishing serous from mucinous cystic tumors include older age group and presence of multiple (>6) cysts measuring less than 2 cm in diameter.[8,9] Fishman *et al.* reported that CT and sonography can correctly distinguish mucinous from serous cystadenomas in approximately 90% of cases.[10] Lesion enhancement particularly in septae is characteristic of serous cystadenoma (microcystic adenoma), whereas enhancement of tumor nodules are typical of mucinous cystic neoplasms.[8-10] On cut section, most are composed of multiple small cysts containing clear fluid that gives a tumor a honeycombed appearance.[6] Microscopically multiple cystic spaces are lined by cuboidal epithelium. The cytoplasm in these cells is rich in glycogen.[6]

Conclusion

Pancreatic serous cystadenomas usually are symptomatic due to their large size. This is a very rare type of pancreatic tumor. CT scan displays characteristic typical findings about this tumor. It is necessary to differentiate this tumor from other pancreatic cystic type tumors. In general, large pancreatic serous cystadenomas require surgical excision and the relationship between the tumor, neighboring organs, blood vessels, and bile duct is critical for determining tumor resectability.

Consent

Written consent was obtained from the patient to publish this case report.

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Conflicts of interest

There are no conflicts of interest.

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