

Pancreatic serous cystadenoma – A case report

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Abstract

Microcystic serous cystadenoma is a benign tumor of pancreas, also termed as Clear cell or Glycogen rich adenoma. It occurs at any site in pancreas and composed of small cystic spaces lined by small cuboidal cells with clear cytoplasm, glycogen. There is an association with von Hippel Lindau syndrome in few cases. Clinical symptoms are variable. Excision is almost curative. We report a case of 70 year old male who presented to the OPD with vague complaints of local discomfort. Ultrasound showed a mass in the pancreas. Pancreatectomy was done and diagnosed as microcystic serous cystadenoma of pancreas on histopathology.

Keywords: Microcystic serous cystadenoma, Pancreatic tumours, Pancreatectomy

Introduction

Serous cystic neoplasms constitute 10% of surgically resected cystic pancreatic neoplasms. It is a benign tumor with female predominance, composed of small cystic spaces lined by small cuboidal cells with clear cytoplasm, glycogen. The mean age of presentation is 66 years. Clear cell or glycogen rich adenomas are the widely used synonyms for this entity. It is proposed that the cell of origin is centroacinar cell or intercalated duct system. They can occur at any site in pancreas [1]. In some cases it is associated with von Hippel Lindau syndrome. Clinical symptoms include local discomfort or pain, obstruction if the tumor is in the pancreatic head and diabetes if sufficient numbers of islets are destroyed by the tumour. Excision is almost curative [2].

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A 70 year old male presented to the OPD with vague complaints of local discomfort and pain. Ultrasound showed a mass in the pancreas. CT scan showed areas of calcification. Pancreatectomy was done and we received the specimen. On gross examination, a well circumscribed mass was seen in the head of the pancreas measuring 3x3cm (Figure 1). Rest of the pancreas was normal. Multiple tiny cystic spaces were seen giving a spongy appearance. Histopathological examination

revealed multiple cysts lined by cuboidal cells (Figure 2). The cells had clear cytoplasm and bland nucleus (Figure 3). A final diagnosis of Microcystic serous cystadenoma of pancreas was given. The surgery was uneventful and the patient was discharged.

Discussion

Serous cystic neoplasms of the pancreas are divided into two categories: microcystic and mucinous. Microcystic serous cystadenoma accounts for up to 10% of the total cystic neoplasms of pancreas. In a few number of cases, it is associated with Von Hippel Lindau disease. The chief complaints are abdominal mass with associated local pain and discomfort but in some cases they may be asymptomatic [3]. Grossly the tumor is large, multiloculated with sharply outlined cysts filled with clear fluid. It has a spongy consistency similar to infantile polycystic kidney. In some cases, a central stellate scar is present. The tumor may be macrocystic (megacystic, oligocystic, usually < 10 cysts or microcystic (1-3mm). The predictors of aggressive behavior are large size of the tumor and location of the tumor in the head of pancreas [4]. Microscopic examination reveals small cystic spaces lined by cuboidal cells with clear cytoplasm (glycogen), and minimal mucin. Myoepithelial layer is intact and the cells have centrally placed hyperchromatic nuclei with occasionally

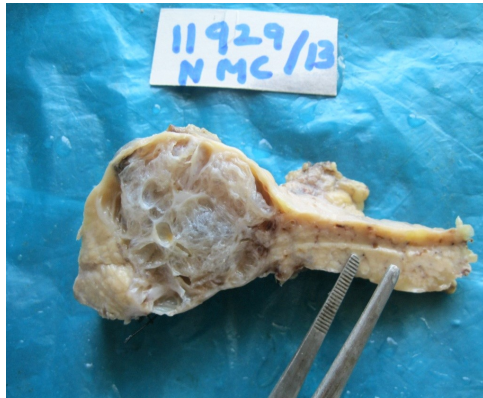


Fig 1: multiloculated with sharply outlined cysts

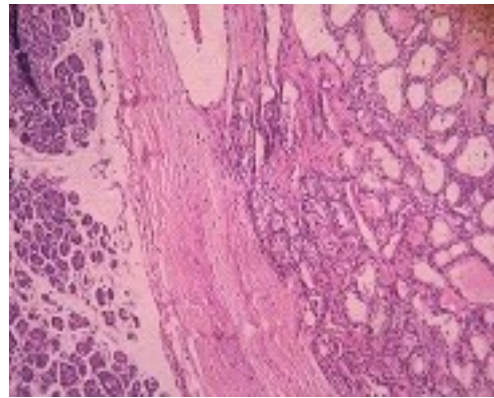


Fig 2: Microcystic serous cystadenoma, H&E (10x)

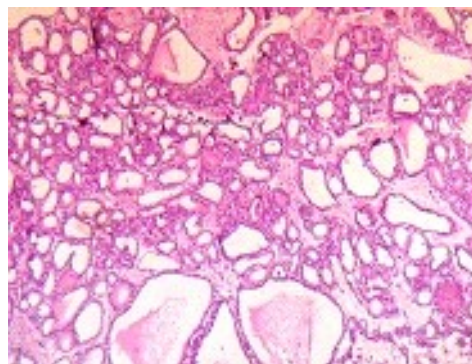


Fig 3: Microcystic serous cystadenoma, H&E (40x)

papillae [5] and the islets between the lobules may calcify (radiating pattern). In a rare case, oncocytic change can be seen [6]. Another variant, the solid variant also exists where there are no cystic spaces and the cells are arranged in nests, sheets and trabeculae separated by thick fibrous bands [7]. Electron microscopic examination reveals prominent villi with glycogen granules and the epithelial cells are connected by occluding junctions and belt desmosomes resting on a basement membrane [8].

Imaging modalities are an aid in the diagnosis of serous cystadenoma of pancreas. On Ultrasound, more than six loculi, less than 2 cm in diameter are seen [9]. On plain CT, a sunburst pattern of calcification with a central scar is pathognomonic, but occurs in only 30% of patients [10]. On contrast-enhanced CT, enhancement occurs especially in the areas of septation [11].

The differential diagnosis of SCA is considered very important as SCAs may not require surgery. A misdiagnosis of pseudocysts or mucinous cystic tumors is always a possibility because of the oligocystic or unilocular nature in all these entities [12]. A majority of the patients with pseudocysts have a history of pancreatitis and often present at an elder age.

Hypervascularity is another feature distinguishing SCA from pseudocysts [13]. Endoscopic retrograde pancreatography has a distinct role in the differential diagnosis where a communication is seen with the pancreatic duct in case of the pseudocyst in 70% of the cases, whereas such a communication is absent in SCAs [14, 15]. On CT scan, mucinous cystic tumors have a few, large loculi with thin septa and peripheral calcifications are seen in mucinous tumors and pseudocysts but in case of SCA, intratumoral calcifications are seen.

Fine-needle aspiration of cystic lesions for cytological and biochemical analysis of the fluid can be performed in cases where the distinction of SCAs from mucinous cystadenomas and pseudocysts is less clear by US or CT. On cytological analysis, periodic acid-Schiff stains show abundant cytoplasmic glycogen, and stains for mucins are negative in case of SCA [16].

The cells are cuboidal to polygonal in shape with no mitoses. Cytological analysis is diagnostic in about 50% to 60% of cases. Biochemical analysis of cyst fluid may include amylase and some tumor markers such as carcinoembryonic antigen, NB/70K, CA 72-4, CA 125, CA 15-3 tissue polypeptide antigen, and pS2 protein [17-

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19]. Amylase content of the fluid in SCAs is usually lower than the levels in pseudocysts and mucinous cystic tumors. SCAs have lower levels of tumor markers compared to mucinous cystic tumors.

We have presented this case because of its rarity, especially in men.

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