

Case Report

HUGE PANCREATIC CALCIFICATIONS-----AN UNUSUAL CASE OF PANCREATIC DIVISUM

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ABSTRACT:

The pancreas is located in the midline of the back of the abdomen, closely associated with the liver, stomach, and duodenum. The pancreas is an unusual gland because it has both endocrine and exocrine functions. There are various types of congenital anomalies of the pancreas in humans. These include Anomalous pancreaticobiliary junction (APBJ), Choledochal cysts, Annular pancreas and pancreas divisum. Pancreas divisum is a congenital anomaly in which ventral and dorsal pancreatic ducts do not fuse together.

The presence of pancreatic calcifications signifies the pancreatic disease. Today, our ability to image the pancreas has greatly advanced with modalities including sonography, CT, endoscopic retrograde cholangiopancreatography, and MR imaging. This improved visualization of the pancreas allows better identification of pancreatic calcifications and their underlying cause.

Common causes of pancreatic calcifications include inflammatory such as chronic alcoholic pancreatitis, developmental such as hereditary pancreatitis, cystic fibrosis, pancreas divisum and annular pancreas, neoplastic

such as ductal adenocarcinoma and idiopathic such as in older patients. We present a case of 45-year-old male patient presented with epigastric pain off and on for the last one year. His ultrasonography showed a large calcification in the region of pancreas. Pancreas was not separately visualized. CT scan of abdomen also revealed two large calcifications within the pancreas. His MRCP demonstrate pancreas divisum with heavy calcifications in pancreatic parenchyma.

KEY WORDS: Pancreas, calcification, pancreas divisum, pancreatitis.

INTRODUCTION:

There are many causes of calcification in the pancreas. Most common cause is inflammatory alcoholic pancreatitis. Developmental causes of pancreatic calcifications include hereditary pancreatitis, cystic fibrosis, pancreas divisum and annular pancreas. Least common causes are neoplastic such as ductal adenocarcinoma and idiopathic such as in older patients.

Pancreas divisum is a common congenital anomaly in which ventral and dorsal pancreatic ducts do not fuse together. The dorsal pancreas drains through Santorini's duct into the minor papilla, while ventral pancreas that drains through Wirsung's duct into major papilla. A relative obstruction to pancreatic exocrine secretory flow through

the duct of Santorini and minor papilla could result in pancreatitis in a small number of patients with pancreas divisum that leads to pancreatic calcification.

CASE REPORT:

A 45-years old man, resident of District Rahim Yar Khan presented with epigastric pain for last one year. Initially pain was mild in intensity which gradually became severe with the passage of time. Intensity of epigastric pain increased associated the intake of meals.

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There was past history of severe epigastric pain ten years back. Pain was gradually settled down by medication of local medical practitioner (record not available).

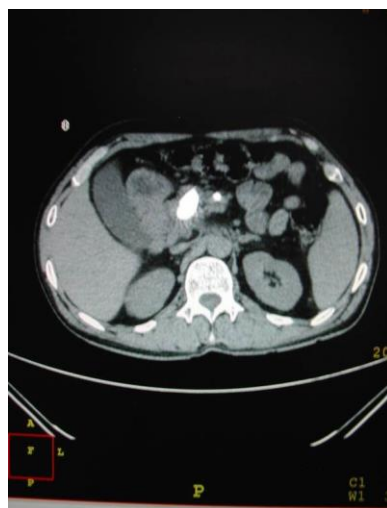
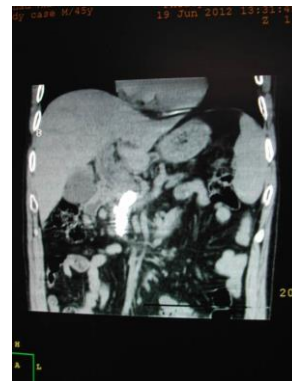
Our patient was middle aged man with average height, weight and built. He was well oriented in time, place and person with following vitals: pulse 80/min, regular; temperature 98.6 F; blood pressure 120/70 mmHg. He was slightly pale but not jaundiced or edematous. On examination of abdomen, there was tenderness in epigastrium. There was no hepatosplenomegaly. Rest of examination was normal.

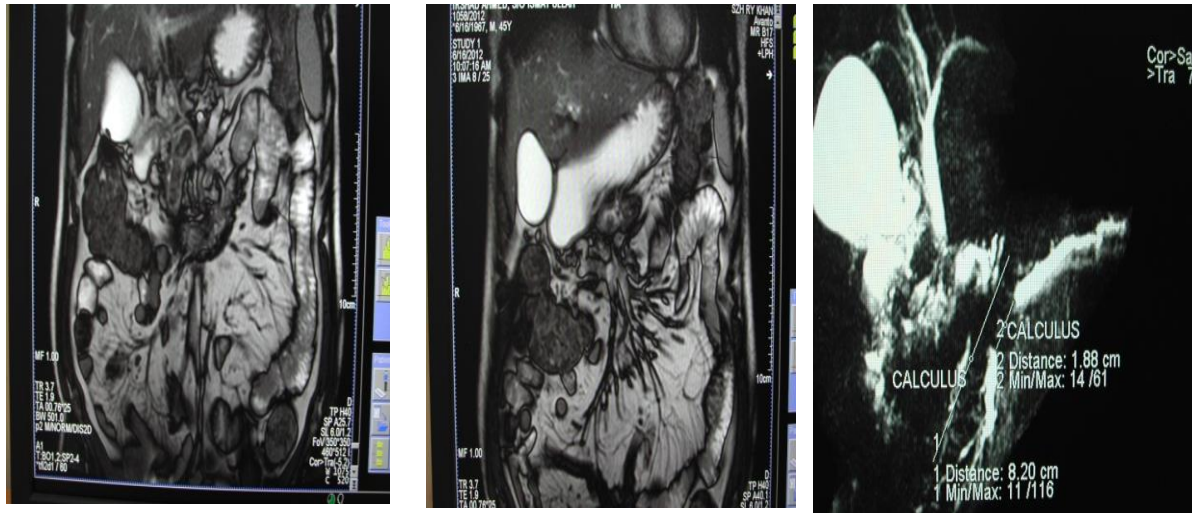
His laboratory investigations were as under: urine examination: 3-4 pus cells/HPF and 2-3 RBCs/ HPF; blood C/E: hemoglobin 11.2 g/dl, TLC: 7200/mm³, neutrophils 54%, lymphocytes 45%; platelets 190000/mm³; LFTs: serum bilirubin 1.1 mg/dl, SGPT 42 U/I, SGOT 47U/I; serum proteins 6.4 g/dl, serum

albumin 4.3 g/dl; screening for hepatitis B & C negative; blood urea 28 mg/dl; serum creatinine 0.9 mg/dl; serum amylase level 96 u/ml and serum lipase was 58 U/ml.

Abdominal ultrasonography revealed an elongated dense calcification measuring 7.0 X 2.0 cm in pancreatic region occupying the body and head parts of pancreas. Another small calcification is also noted close to and at right aspect of main calcification. CBD is mildly dilated being compressed by calcification.

CT scan of abdomen showed a long transversely oriented dense calcification occupying whole of pancreas. Another small calcification is also noted close and inferior to right aspect of main calcification. Rest of all the abdominal organs including liver, GB, spleen and both kidneys are normal in size and texture.





DISCUSSION:

The pancreas is located in the midline of the back of the abdomen, closely associated with the liver, stomach, and duodenum. The pancreas is unusual gland because it has both endocrine and exocrine functions. Its endocrine function produces three hormones. Two of these hormones, insulin and glucagon, are central to the processing of sugars in the diet (carbohydrate metabolism or breakdown). The third hormone produced by the endocrine cells of the pancreas affects gastrointestinal functioning. This hormone is called vasoactive intestinal polypeptide (VIP). The pancreas's exocrine function produces a variety of digestive enzymes (trypsin, chymotrypsin, lipase, and amylase, among others). These enzymes are passed into the duodenum through a channel called the pancreatic duct. In the duodenum, the enzymes begin the process of breaking down a variety of food components, including, proteins, fats, and starches.

There are various types of congenital anomalies of the pancreas in humans. Choledochal cysts are anomalies of the bile ducts, which manifest as dilatation of intra- and extrabiliary trees. Choledochal cysts of the pancreas have an abundance of pancreatic tissue in the head of the organ. Anomalous pancreaticobiliary junction (APBJ) is a congenital anomaly in which the pancreatic and biliary ducts join outside the duodenal wall and form an abnormally long

common channel. This anomaly is closely related with choledochal cysts, because >90% of cysts are complicated with APBJ. Annular pancreas is a well-known congenital anomaly in which pancreatic tissue surrounds the second portion of the duodenum. Pancreas divisum is a congenital anomaly in which ventral and dorsal pancreatic ducts do not fuse together. The body, tail, and part of the head of the pancreas (dorsal pancreas) drain through Santorini's duct into the minor papilla, while another part of the head (ventral pancreas) drains through Wirsung's duct into major papilla. Most patients with pancreas divisum are asymptomatic. A relative obstruction to pancreatic exocrine secretory flow through the duct of Santorini and minor papilla could result in pancreatitis in a small number of patients with pancreas divisum(1,2). Pancreas divisum is reported in 3%–7% of cases of acute pancreatitis. Pancreas divisum underlies 12%–50% of cases of acute pancreatitis in patients whose pancreatitis would otherwise be considered idiopathic (5,6).

In a study conducted by Barthet et al(3), published in Eur J Gastroenterol Hepatol 1995 about cases of pancreas divisum. They compared the 20 cases of pancreas divisum who underwent chronic calcifying pancreatitis(CCP) with 20 cases of CCP without pancreas divisum. They conclude that pancreas divisum does not modify the natural course of CCP.

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Submitted for publication: 29-04-2014

Accepted for publication: 20-05-2014

The days of life pass away like clouds, so do good while you are alive.

Opportunity is swift of flight but slow to return.

Pride, cowardice, and miserliness are bad for me but good for women

The most happy is he to whom God has given a good wife.

He who knows himself knows God.

Hazrat Ali
(Razi Allah Tala Anho)