CASE REPORT

PANCREATIC DUCT STONES

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Stones of pancreatic ductal origin are often linked to chronic pancreatitis. Chronic pancreatitis appears to exist in the presence of such calculi upon radiology. Having said that, pancreatic ductal stone due to biliary causes (origin), in face of acute pancreatitis, is rare. To the best of our knowledge this was the first case of its kind presented to our hospital in recent past. A 25-year-old female presented to the emergency department of our hospital with an acute episode of pancreatitis. Computerized tomography (CT) scan, endoscopic retrograde cholangiopancreatography (ERCP) & magnetic resonance cholangiopancreatography (MRCP) concluded acute pancreatitis (AP) with dilated main pancreatic duct left side branches and intra ductal calculi. The findings were not suggestive of any chronic pancreatitis. Conservative treatment was given for the episodic attack of AP. After the episode resolved, an exploration and extraction of the pancreatic ductal calculus was performed successfully. The pancreatic duct stones were removed by lateral pancreaticojejunostomy (partington-rochelle procedure). The patient made a remarkable recovery after the procedure and was perfectly healthy and well-oriented in time and space at 4-months follow up. Acute pancreatitis is an inflammatory condition of pancreas, when, associated with pancreatic duct stones a lateral pancreaticojejunostomy is done, which, results in better outcomes decreasing the mortality and morbidity. Acute pancreatitis due to ductal calculi is rare for which extraction is safe after resolution of the episode of AP. Studies need to be carried out to look for the outcome and the effectiveness of the procedure, when, specifically and specially done for this condition.

Keywords: Calculi; Pancreatic Duct Stones; MRCP, ERCP; Acute Pancreatitis

J Ayub Med Coll Abbottabad 2017;29(1):154–6

INTRODUCTION

Stones of pancreatic ductal origin are often linked to chronic pancreatitis.[1] Chronic pancreatitis appears to exist in the presence of such calculi upon radiology. Having said that, pancreatic ductal stone due to biliary causes (origin), in face of acute pancreatitis, is rare.

The pancreatic duct or duct of Wirsung comes out of the pancreas, takes the common bile duct in its way and enters the duodenum at the ampulla of vater. Pancreatic duct stone in acute pancreatitis is a rare condition. The duct may be blocked by the stone, which blocks the flow of enzymes, may initiate pancreatitis.

The presenting complaints can be fever, vomiting, abdominal pain, nausea, sweating and clay coloured stool, abdominal swelling and tenderness. The following investigations need to be done to establish a diagnosis about the calculi, are, abdominal ultrasound, endoscopic ultrasound; endoscopic retrograde cholangiopancreatography (ERCP), magnetic resonance cholangiopancreatography (MRCP), CT and MRI scans. Medical management of the patient includes; symptomatic treatment for control of pain. Drugs for pancreatic enzyme supplementation and Diabetes. Surgically, celiac plexus Block, Frey's procedure, pancreaticoduodenectomy, distal Pancreatectomy and Lateral Pancreaticojejunostomy[2] can be done.

CASE REPORT

A 25-year-old female presented to the emergency department of Khyber Teaching Hospital with an acute episode of pancreatitis and was referred to the Surgical Unit. The pain was intense and radiated to the back, associated with nausea and vomiting.

The patient consulted hospital for the management of pain as the pain is aggravated with food intake and movement. The pain was relieved with injectable analgesics. On examination, the patient was anaemic but not jaundiced, epigastrium was tender. The patient was semi-conscious and had a score of 13 on GCS. Rest of the examination was unremarkable.

Co-morbid conditions included DM for the last 2 years for which she was on insulin therapy. The patient has high blood pressure. There is no family history of pancreatitis or ductal lithiasis. Reports of the patient showed that the electrolytes level was slightly disturbed, i.e., lower than normal. The serum amylase level was

markedly raised. (Greater than 1,000 IU/L; reference range 0–110 IU/L), Abdominal ultrasound was performed which showed pancreatic duct dilated measuring 6.6 mm±1.2 cm calculus within it causing acoustic shadow. CT abdomen was performed which showed inflamed pancreatic head, as well as impacted intra ductal stones.

The liver looked normal with no dilatation of the ducts; kidneys were normal, spleen looked normal. Also, the urinary bladder looked normal. ERCP was performed, which showed CBD stones.

Furthermore, MRCP was performed, which showed acute pancreatitis with dilated main pancreatic duct left side branches and intra-ductal calculi (Figure-1 & Figure-2)

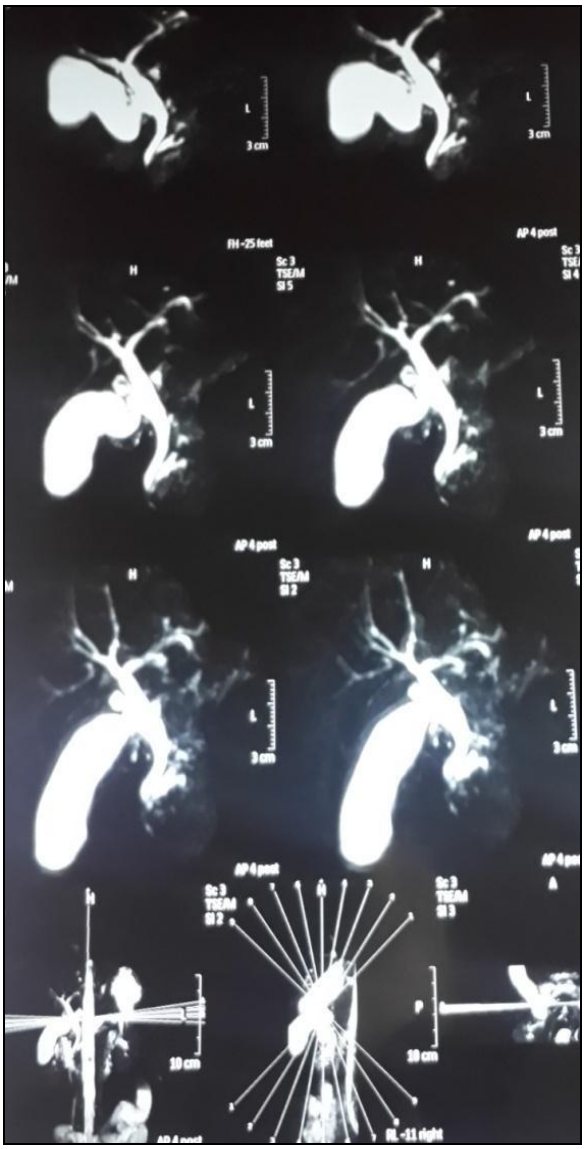

Figure-1: MRCP report 1

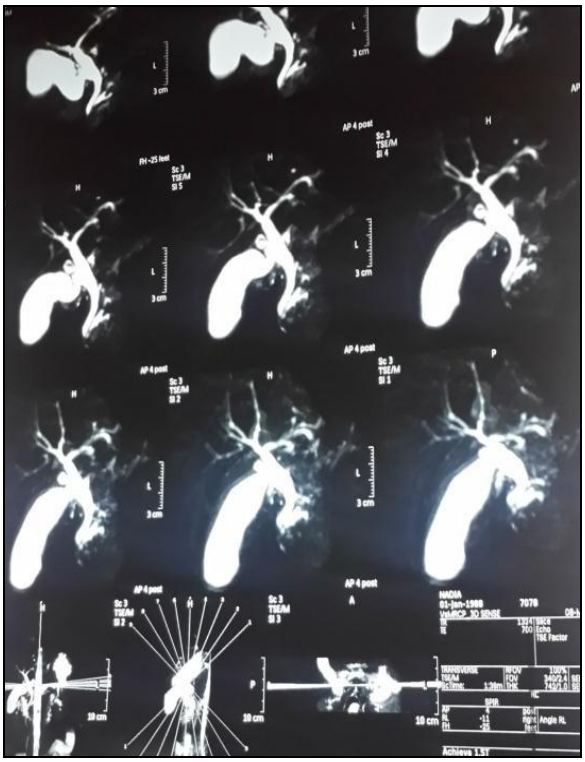

Figure-2: MRCP report 2

Figure 1 and 2 shows the performed MRCP, which showed acute pancreatitis with dilated main pancreatic duct left side branches and intra-ductal calculi.

After thorough investigations, the patient was prepared for surgery, the surgical procedure being lateral pancreaticojejunostomy. Preoperative administration of a broad-spectrum antibiotic with adequate coverage against gram-negative enteric organisms was done.

Positioning -induction - scrubbing & draping - incision - exposure of the whole pancreas. Incision and entry of main pancreatic duct - removal of stones with Desjardins forceps - roux en y loop created 20cm from DJ junction extending up to 40 cm of jejunum - proximal end closure, i.e., stump created – pancreaticojejunostomy done with vicryl 2/0 - jejunojejunostomy done - with vicryl 2/0 - cholecystectomy done - 2 drains placed - one sub hepatic drain and the other near pancreatic tail - 250 ml. max blood loss - 9 packs used and removed - intubated and catheterized - drainage bag applied - skin closure and shifted. The patient made a remarkable recovery after the procedure and was perfectly healthy and well-oriented in time and space at 4-months follow up.

DISCUSSION

As early as the 17th century the pancreatic concretions are under investigation and researchers

have a close eye on it. DeGraaf described it in 1667, after which tremendous amount of work has been done on their clinical, biochemical and biophysical characteristics.[3,4]

Two main patterns of calcification were thought to exist previously; representing the true stones, the intra ductal type and representing the false stones the parenchymal pattern.[5,6] The current consensus is that the only mode of calcification in the excretory portion of the pancreas is the formation of intra-ductal calculi

In the present case, CT had suggested impacted intra ductal stones. ERCP was performed, which showed CBD stones. Furthermore, MRCP was performed, which showed acute pancreatitis with dilated main pancreatic duct left side branches and intra-ductal calculi. The patient had no history of alcohol abuse.

Abdominal ultrasound of our patient showed pancreatic duct dilated measuring 6.6 mm±1.2 cm calculus within it causing acoustic shadow. Calcium carbonate, proteins and polysaccharides aggregates are the major composition of these pancreatic stones, studies show. The calculi may occur singly, as a group (in clusters), as small concretions or as developed 1–2 cm wide calculi. Exploration & extraction of the calculi from the pancreatic duct is safe after resolution of the episode of AP. Further Studies would give an insight to this, to look for the outcome and the effectiveness of the procedure, when, specifically and specially done for this condition.

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Received: 22 January, 2016	*Revised: 5 May, 2016*	*Accepted: 28 May, 2016*

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