



ANNULAR PANCREAS- A CASE STUDY

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Article History: Received 14th December, 2016, Received in revised form 18th January, 2017, Accepted 6th February, 2017, Published online 28th March, 2017

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INTRODUCTION

Annular pancreas is a rare condition in which the second part of the duodenum is surrounded by a ring of pancreatic tissue continuous with the head of the pancreas. This portion of the pancreas can constrict the duodenum and block or impair the flow of food to the rest of the intestines. It is estimated to occur in 1 out of 12,000 to 15,000 newborns. The ambiguity arises from the fact that not all cases are symptomatic.

Case study of Mrs

Mrs. X, 15 Years old female, presented with history of stomach pain, vomiting and Diarrhea. Mrs. X Had past history of food poisoning 3 years back. There no family history of cardiac disease or Hypertension. Ultrasound abdomen revealed pancreatic node present, MRI Showed bile duct tortuous. Mrs X was diagnosed was Annular Pancreas.

Annular Pancreas is a ring of pancreatic tissue that encircles the duodenum (the first part of the small intestine). Normally, the pancreas sits next to, but does not surround, the duodenum.

Incidence

The incidence is probably 1 in 250; however accurate incidence is not reported¹.

Book picture	Patient picture
<ul style="list-style-type: none"> Down syndrome pancreas divisum pancreatitis pancreatic cancer intraductal papillary mucinous tumor (IPMT) 	<p>Not known Present</p>

It is as common in adults as among children. Age of detection however usually corresponds to 3rd - 6th decade of life.

Etiology

Pathophysiology

The pancreas develops from a single dorsal and two ventral buds, which appear as outgrowths of primitive foregut at 5 weeks of gestation. Ventral buds fuse rapidly. In 7th week of

gestation, duodenum expands, and rotates the ventral bud from right to left, and causes fusion with dorsal bud. The ventral bud forms the inferior part of uncinate process and inferior head of pancreas while the dorsal bud gives rise to tail and body of pancreas.

Annular pancreas develops due to failure of ventral bud to rotate with duodenum, causing encasement of duodenum.

Book picture	Patient picture
<ul style="list-style-type: none"> In adult, there may be, Upper abdominal colicky pain Postprandial fullness Vomiting Higher incidence of pancreatitis Peptic ulcers may develop 	<p>Present present Present Present Present</p>

Imaging Findings

- In newborn, there may be a double bubble sign from dilatation of the stomach and first portion of the duodenum
- In, adult the diagnosis is usually suggested first by CT and can be confirmed with MRCP (magnetic resonance cholangio-pancreaticography) or ERCP (endoscopic retrograde cholangio-pancreaticography)
- UGI series
- May show extrinsic compression on both lateral and medial walls of the 2nd portion of duodenum
- CT
- May be mistaken for thickening of the duodenal wall
- On MRCP or ERCP, the duct of the annular pancreas usually originates anterior to the duodenum sweeps posterior and opens into the main pancreatic duct or ampulla.

Differential Diagnosis

- Pancreatic divisum

- Failure of the dorsal and ventral pancreatic ducts to fuse resulting in the majority of secretions exiting via the accessory pancreatic duct of Santorini
- Pancreatic neoplasm
- Duplication cyst of the duodenum
- Duodenal Arteria



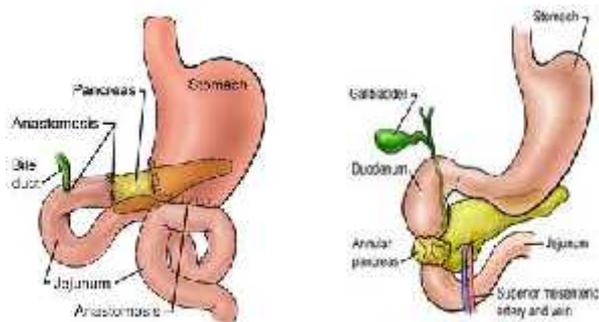
Management

Medical management

Inj.Cefotaxime 1gm iv Bd
Inj.ciprofloxacin 200mg IV bd
Inj.Metrogyl 400mg IV Tds
Inj.Tramadol IV SOS

Surgical Management

Surgical bypass of the blocked part of the duodenum is the usual treatment for this disorder. Treatment usually is bypassing the obstructed segment of duodenum by duodeno-duodenostomy. Another approach is laparoscopic gastrojejunostomy



Complications

- obstructive jaundice-obstruction in the flow of bile
- pancreatitis-inflammation of the pancreas
- peptic ulcer-a defect in the lining of the stomach or the first part of the intestine
- perforation (hole) in the intestine
- peritonitis-inflammation of the tissue that lines the inner wall of the abdomen
- In addition, adults who have annular pancreas have a higher risk for developing certain types of cancer, including biliary tract and pancreatic cancer.

Nursing Intervention

Pain related to inflammation secondary to the disease condition

Assess patient pain, provided rest periods before activities, provided warm back rub and administered analgesics

Imbalanced nutritional status less than body requirements related to anorexia

Assessed the nutritional status, provided oral care, small and frequent feed given. Advised her to take rich carbohydrate diet and low sodium diet

Summary

Mrs.X was very co-operative with health care personnel. although symptoms were well responding to treatment, it was recurring. But she did not develop further complications during hospital stay.

CONCLUSION

To prevent Annular pancreas Maintain a healthy diet during pregnancy, including fruits, vegetables, and whole grains. Stop smoking or do not start smoking. Do not consume drugs that are not prescribed by your doctor or alcohol.

The outcome is usually good with surgery. Adults with an annular pancreas are at increased risk for pancreatic or biliary tract cancer. In newborn, except for the possible presence of other congenital anomalies, surgery is usually successful Surgery should be completely successful in an adult

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