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INCOMPLETE ANNULAR PANCREAS PRESENTING WITH GASTRIC OUTLET OBSTRUCTION AND PANCREATITIS – A CASE REPORT

Radio diagnosis

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ABSTRACT

Congenital anomaly of the pancreas where there is a complete or a partial circle of pancreatic tissue encircling the duodenum is called annular pancreas. This case report describes a 28 year old male with features of gastric outlet obstruction, who on evaluation was diagnosed with incomplete annular pancreas.

KEYWORDS

Annular pancreas, gastric outlet obstruction, pancreatitis

INTRODUCTION

Annular pancreas is one of the congenital malformations of the pancreas. The first case of annular pancreas was described by Tiedemann in 1818[1]. The term "annular pancreas was coined by Ecker[2]. Annular pancreas can be either complete or partial. Incidence of annular pancreas is unknown but roughly estimated at 0.02% but according to ERCP studies an incidence of 0.4% has been reported[3].

Clinically annular pancreas presents with signs of gastric outlet obstruction or can be an incidental finding. Annular pancreas can present itself both in neonates and the elderly. Incidental findings are usually reported in the third or fourth decade.

CASE REPORT

A 28 year old male came with epigastric pain and vomiting for the past four days. On ultrasound imaging; asymmetrical circumferential bowel wall thickening of the D1 segment and the pancreas appeared bulky and pancreatic tissue was seen encircling the D2 segment causing narrowing of the same [Figure 1]. Also minimal free fluid was noted in the peritoneal cavity. For further evaluation, CECT abdomen was done; which confirmed the asymmetrical circumferential bowel wall thickening involving the D1 segment of the duodenum causing the gastric outlet obstruction and pancreatic tissue seen abutting the D2 segment of duodenum encircling approximately 150 degree of the lumen with characteristic crocodile jaw like appearance [figure 2 &3]. Mild peripancreatic fat stranding was noted. No significant ductal dilatation or calcification was seen. A few peripancreatic lymph nodes were seen. Minimal free fluid was seen in the peritoneal cavity.

DISSCUSSION

The pancreas is of endodermal origin. The pancreas develops as a result of the fusion between the dorsal and ventral bud. The ventral bud forms the uncinate process and head of pancreas; whereas the dorsal bud forms the body and tail of the pancreas. The failure of the ventral bud to rotate and elongate to encircle the upper part of duodenum results in an annular pancreas[4].

Annular pancreas can be of two types; complete and incomplete. A complete ring of pancreas surrounding the duodenum is seen in the complete type and an incomplete ring of pancreatic tissue is seen in the incomplete type[5]. The incidence of the complete type is more common and can be easily detected in imaging modalities. The incomplete variety poses as a diagnostic difficulty in asymptomatic patients.

Annular pancreas can present with a spectrum of symptoms ranging from asymptomatic presentations to severely morbid presentations. When symptomatic, they present with features of bowel obstruction, acute or chronic pancreatitis, and biliary obstruction.

Annular pancreas can be diagnosed using various imaging modalities like Contrast enhanced CT, MRCP, and ERCP. Incomplete annular pancreas can be described as three types based on pancreatic tissue extension in relation to the duodenum. Anterolateral, posterolateral or both are the examples of pancreatic tissue extension. The Crocodile Jaw like appearance of the pancreas is the most characteristic CECT finding in a case of incomplete annular pancreas[6]. For the need of further evaluation of the ductal anatomy, either MRCP or ERCP can also be done.

The treatment of a symptomatic annular pancreas is generally surgical. Of the many surgical options available a bypass gastro or duodenojejunostomy is preferred[7].

CONCLUSION

Diagnosis of incomplete annular pancreas can be a diagnostic challenge. Only a minority of patients with incomplete annular pancreas present with small bowel obstruction in comparison with complete annular pancreas. In such scenarios the classical Crocodile Jaw like appearance in CECT prompts the definite diagnosis and timely treatment. This case was reported because of the rarity of occurrence.

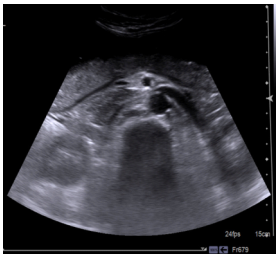

Figure 1: Ultrasonagram showing narrowing of D2 segment with pancreatic tissue was seen encircling the D2 segment.

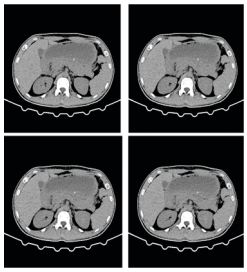

Figure 2: CT plain showing bulky pancreas with minimal fat stranding.

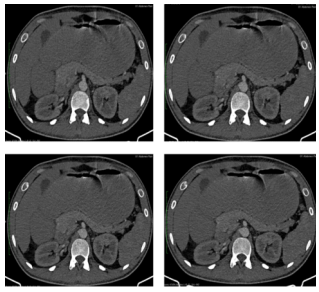

Figure 3: CECT showing pancreatic tissue abutting the D2 segment of duodenum encircling approximately 150 degree of the lumen with characteristic crocodile jaw like appearance.

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