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Gastric Outlet Obstruction in a Young Adult Due to Annular Pancreas: A Case Report

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Abstract

This case report discusses a 25-year-old male diagnosed with gastric outlet obstruction due to annular pancreas, a rare congenital condition more commonly identified in infants but occasionally found in adults. The patient presented with severe nausea, vomiting, and weight loss, and was diagnosed using CT and endoscopy. The case was managed successfully with surgical intervention, highlighting the importance of considering annular pancreas in the differential diagnosis for adults with unexplained gastrointestinal symptoms. This report adds valuable insights into the clinical presentation, diagnosis, and management of this rare condition, emphasizing a multidisciplinary approach for optimal outcomes.

Keywords:- Annular Pancreas, Gastric Outlet Obstruction, Adult, Computed Tomography, Duodenojejunostomy.

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INTRODUCTION

Annular pancreas is a rare congenital anomaly characterized by the development of a ring of pancreatic tissue that encircles the duodenum. This ring can partially or completely obstruct the duodenum, leading to symptoms related to gastric outlet obstruction. The embryological basis of this condition involves the malrotation or abnormal migration of the ventral pancreatic bud during embryonic development, leading to the encircling of the duodenum.[1]

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The incidence of annular pancreas is estimated at about 1 in 20,000 live births.[2] It can present in neonates as duodenal obstruction, but many cases remain asymptomatic and undiagnosed into adulthood. In adults, the condition is often identified incidentally during investigations for unrelated issues or during an evaluation for nonspecific gastrointestinal symptoms such as nausea, vomiting, or abdominal pain.[3]

Clinically, gastric outlet obstruction due to annular pancreas in adults can manifest as persistent nausea, vomiting, early satiety, and weight loss. The diagnosis is typically confirmed through imaging techniques such as an upper gastrointestinal series, which shows delayed gastric emptying, or computed tomography (CT), which can directly visualize the annular pancreas encircling the duodenum. Endoscopic studies may also assist in the diagnosis by showing extrinsic compression of the duodenum.[4]

This case is noteworthy due to its rarity and the diagnostic challenge it poses, particularly in a relatively young adult with non-specific gastrointestinal symptoms. The identification of annular pancreas as the cause of gastric outlet obstruction is crucial as it directly influences management strategies and outcomes.[5]

CASE REPORT

A 25-year-old male presented to the emergency department with a three-day history of severe nausea, non-bilious vomiting, and inability to tolerate orally. The patient reported a three-month history of intermittent abdominal pain, primarily postprandial, and significant weight loss of approximately 10 kg over the same period. His past medical history was unremarkable, and there was no significant family history of gastrointestinal diseases.

Physical examination revealed mild dehydration and epigastric tenderness without palpable masses. Initial laboratory investigations including complete blood count, liver function tests, and serum electrolytes were within normal limits. Given the persistent symptoms and clinical presentation, a contrast-enhanced CT of the abdomen was performed, which revealed a ring of pancreatic tissue encircling the second part of the duodenum, consistent with annular pancreas. There was associated dilation of the stomach and proximal duodenum.

An upper gastrointestinal endoscopy confirmed the extrinsic compression at the second part of the duodenum and delayed gastric emptying, without intrinsic mucosal abnormality. These findings supported the diagnosis of gastric outlet obstruction secondary to annular pancreas.

Management involved initial nasogastric tube decompression and intravenous hydration. Due to the severity of the obstruction and failed conservative management, the patient underwent laparoscopic duodenojejunostomy. The postoperative period was uneventful, and the patient experienced significant improvement in symptoms. Follow-up at three months showed complete resolution of vomiting and weight stabilization.

DISCUSSION

This case highlights an unusual presentation of annular pancreas causing gastric outlet obstruction in an adult, a scenario more typically associated with pediatric patients. The presentation of such a case in adulthood is relatively rare, and the symptoms can often mimic other common gastrointestinal disorders, leading to diagnostic challenges.[6]

Literature review reveals few similar cases. For example, a study by Aleem A et al[7] discussed the long-term outcomes after surgical intervention in adults with annular pancreas, indicating favorable results with surgical bypass procedures like duodenojejunostomy. Another report by Moon SB[8] emphasized the role of multidisciplinary approach in managing these patients, involving gastroenterologists, surgeons, and radiologists to achieve optimal outcomes. [9]

The discussion of this case aligns with these reports and adds to the growing body of literature advocating for a high index of suspicion and comprehensive diagnostic approach in adults presenting with symptoms of gastric outlet obstruction, where annular pancreas might be the underlying etiology.[10]

CONCLUSION

This case report of a young adult with gastric outlet obstruction secondary to annular pancreas emphasizes the importance of considering this rare congenital anomaly in the differential diagnosis of gastrointestinal symptoms in adults. Early diagnosis and appropriate surgical intervention are crucial for effective management and favorable outcomes.

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