DOI: 10.7860/IJARS/2017/25867:2251

Case Report

Surgery Section

A Case of Malrotation of Mid Gut with Incidental Finding of Annular Pancreas

SHASHIKANT KULGOD, AMIT SHIVSHANKAR AMMANAGI

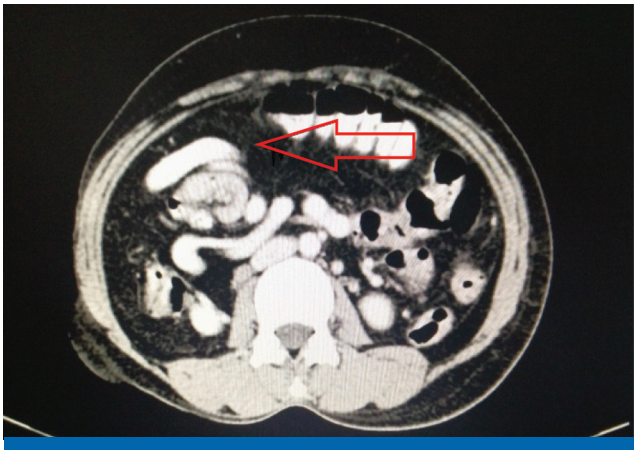
ABSTRACT

Malrotation of the mid gut is the most common congenital anomaly which might be present in infants, children or adults at various point of time in the form of acute intestinal obstruction or intestinal ischaemia with caecal or midgut volvulus or with chronic abdominal pain. Annular pancreas is a rare congenital anomaly which is consists of a rim of pancreatic tissue which encircles the second part of duodenum either partially or completely. Annular pancreas may be asymptomatic for a very long period of time before presenting with vomiting or features of intestinal obstruction. Here, we are presenting a case of a 36-year-old adult female patient presented to us with intractable vomiting, generalised weakness with no previous history of any symptoms, who was diagnosed as mid gut volvulus which eventually turned out to be malrotation of mid gut and with incidental finding of annular pancreas.

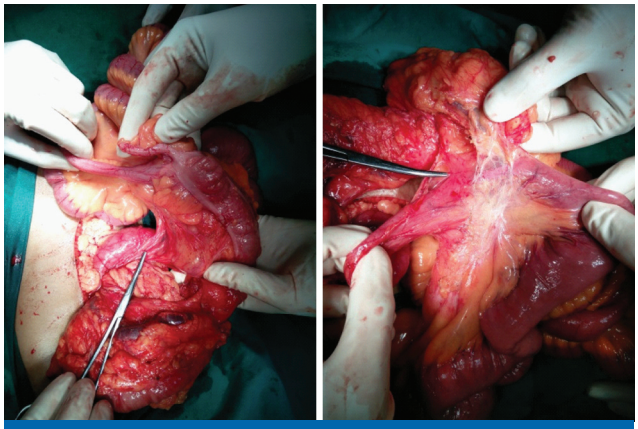
Keywords: Appendectomy, Derotation, Duodeno-duodenostomy, Ladd's procedure

CASE REPORT

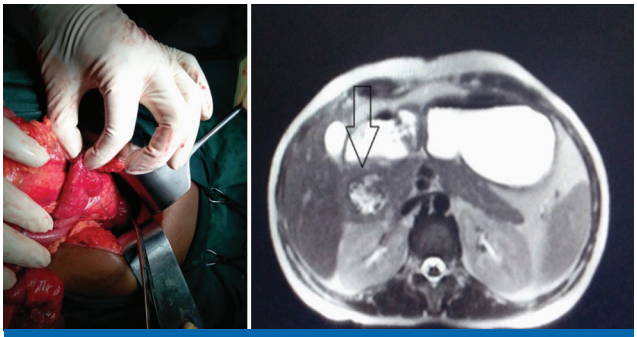
A 36-year-old patient came to our hospital with history of intractable vomiting and generalised weakness and severe pain in abdomen. Patient was asymptomatic before this and had no episode of pain abdomen or vomiting. Patient was stabilised with intravenous fluids and anti-emetics. On examination, she appeared underweight and her vital signs were within normal range. The abdomen was soft with tenderness in the right upper quadrant with guarding. All her blood indices were within the normal limits and was shifted to CT-abdomen. CT-abdomen showed a classical sign of whirlpool or swirl-sign as shown in [Table/Fig-1] which was indicating towards malrotation of mid gut or volvulus or closed bowel loop obstruction so patient was shifted to operation room and she underwent explorative laparotomy where we found Ladd's band with malrotation of mid gut on superior mesenteric vessels but no evidence of volvulus of intestines [Table/Fig-2,3]. We then released all the Ladd's bands and did derotation of mid gut. Incidentally we found complete annular pancreas as shown in [Table/Fig-4,5]. Thus, duodeno- duodenostomy was performed. Patient also underwent appendictectomy to prevent future diagnostic dilemma. Patient was kept nil by mouth for two days and subsequently started with oral fluids and shifted to soft to regular diet subsequently. Patient was



[Table/Fig-1]: Image depicting swirl-sign or whirlpool-sign.



[Table/Fig-2]: Malrotation at the superior mesenteric vessels.
[Table/Fig-3]: Ladd's bands attach to the bowels. (images from left to right)



[Table/Fig-4]: Intra-operative image showing annular pancreas.
[Table/Fig-5]: CT-scan showing annular pancreas. (left to right)

discharged and returned for follow-up after 15 days, with no complaints. Patient came after three months with incisional hernia and subsequently underwent mesh repair for the same. Patient consent was obtained orally.

DISCUSSION

Malrotation of mid gut with annular pancreas is very rare entity which is generally asymptomatic till patient reaches adulthood and is usually manifested with either intestinal obstruction or some complications [1,2]. To find a case with both this combination in a 36 years old adult with no previous history of any type of symptoms is still a rarer entity. The diagnosis of malrotation or volvulus is very difficult, so it requires clinical or radiological or endoscopy investigations to diagnose both malrotation and annular pancreas. Diagnosing malrotation with volvulus, annular pancreas in adults who are asymptomatic is difficult so modalities like CT, MRI, angiography, barium studies are employed [3]. Laparotomy or laparoscopy is the only way to be sure in diagnosing malrotaion of gut and also in annular pancreas [4]. ERCP is another modality to diagnose such cases and can also be used as therapeutic measure [5-8].

In our case Ladd's procedure was the treatment of choice which includes separation of the peritoneal bands which were attached from right abdominal wall to caecum and derotation of the mid gut, followed by appendicectomy to avoid future diagnostic problems. Since, no guidelines and protocols were established for the treatment of such cases and in most of the instances they are incidentally found during laparotomy or laparoscopy, duodeno-duodenostomy is preferably done.

CONCLUSION

A combination of malrotation of mid gut along with annular pancreas in an adult is rare diagnosis; however, surgeons should be ready to tackle this situation and keep such diagnosis at the back of their minds when dealing with cases of intractable vomiting and generalised weakness in an adult.

REFERENCES

[1] Gamblin TC, Stephens RE Jr, Johnson RK, Rothwell M. Adult malrotation: a case report and review of the literature. Curr Surg. 2003;60(5):517-20.
[2] Sandrasegaran K, Patel A, Fogel EL, Zyromski NJ, Pitt HA. Annular pancreas in adults. AJR Am J Roentgenol. 2009;193(2):455-60.
[3] Hsu SD, Yu JC, Chou SJ, Hsieh HF, Chang TH, Liu YC. Midgut volvulus in an adult with congenital malrotation. Am J Surg. 2008;195(5):705-07.
[4] Millar AJ, Rode H, Cywes S. Malrotation and volvulus in infancy and childhood. Semin Pediatr Surg. 2003;12(4):229-36.
[5] Almuhammadi R, Almuhammadi S. annular pancreas: a cause of gastric outlet obstruction in a 20-year-old patient. Am J Case Rep. 2014;15:437–40.
[6] Yogi Y, Shibue T, Hashimoto S. Annular pancreas detected in adults, diagnosed by endoscopic retrograde cholangiopancreatography: report of four cases. Gastroenterol Jpn. 1987;22(1):92-99.
[7] Lin SZ. Annular pancreas. Etiology, classification and diagnostic imaging. Chin Med J (Engl). 1989;102(5):368-72.
[8] Ueki T, Yao T, Beppu T, Otani K, Yorioka M, Sakaguchi S, et al. Three-dimensional computed tomography pancreatography of an annular pancreas with special reference to embryogenesis. Pancreas. 2006;32(4):426-29.

AUTHOR(S):
1. Dr. Shashikant Kulgod
2. Dr. Amit Shivshankar Ammanagi

PARTICULARS OF CONTRIBUTORS:
1. Surgical Gastroenterologist, Department of General Surgery and Gastrosurgery, BHS Lakeview Hospital Belgavi, Belgaum, Karnataka, India.
2. General Surgeon, Department of General Surgery and Gastrosurgery, BHS Lakeview Hospital Belgavi, Belgaum, Karnataka, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:
Dr. Amit Shivshankar Ammanagi,
CTS No. 6642, Sector No. 10, Anjaneya Nagar,
Belgaum-590016, Karnataka, India.
E-mail: amit.ammanagi@gmail.com

FINANCIAL OR OTHER COMPETING INTERESTS: None.

Date of Publishing: **Apr 01, 2017**