ORIGINAL RESEARCH PAPER
Volume-8 | Issue-10 | October - 2019 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

DUPLICATION OF THE MIDGUT: A RARE ENTITY

General Surgery

Dr. Pratik D. Ajagekar — Asst. Professor, Dept of Surgery, Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra

Dr. Aniket S. Surushe* — Senior Resident, Dept of Surgery, Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra *Corresponding Author

ABSTRACT

Duplication of the GI system is a rare presentation. Duplication cysts are common as compared to long segment duplication, however the treatment varies for both entities. We are presenting such a case of long segment duplication of the small intestine and discussion of its management and associated malformations.

KEYWORDS

INTRODUCTION

Duplication of the intestines is a rare entity and is found in 1 per 1,00,000 population. Duplications can be cystic or tubular depending on their length. The etiology of intestinal duplications is unknown. Theories include abnormalities in recanalization, a vascular insult, persistence of embryonic diverticula, and partial twinning.

The most common site of duplication is the small intestine in the jejunum and ileum followed by the colon, stomach, duodenum, and esophagus. Colonic duplication is often associated with anomalies of the urogenital system. Intestinal duplications usually manifest in the 1st or 2nd yr of life. But can also manifest in the second or third decade of life.

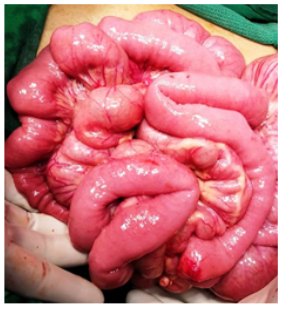
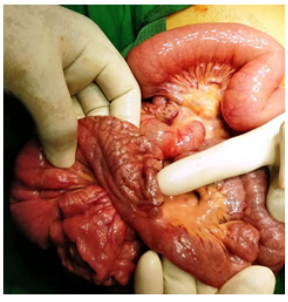
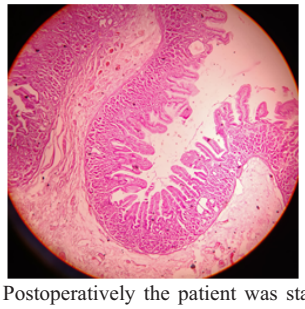
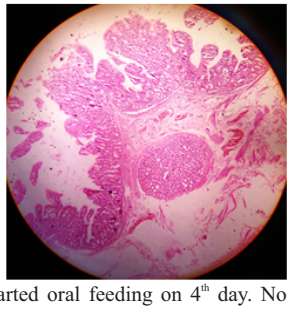
Duplications can be asymptomatic or cause obstructive symptoms, chronic pain, GI bleeding, or abdominal mass. If they are detected, treatment of intestinal duplications is surgical with complete resection of the duplicated portion.

CASE REPORT

We present to you a case of 11 year old female child with complaints of vague abdominal pain and indigestion since 5 years. The parents of the child give history of vague abdominal pain which was colicky and occassionally dull achiching more in the upper abdomen and increased at night. They also gave history of occassional black colour stools and failure of weightgain as per age. She was a low birth weight baby born at 32 weeks of gestation. Diagnosed with a Neuroenteric cyst in the mediastinum more towards the apex of left lung, she was operated for thoracotomy and excision of the neuroenteric cyst at the age of Nine months. Simultaneously she had another cystic swelling in the retroperitoneum between the abdominal aorta and the pelvis of left kidney which regressed with increasing age and completely regressed by the age of 6 years. On general physical examination, the patient was found to be anemic. On examination of the abdomen, no significant findings were noted apart from mild generalised tenderness. Following a series of ultrasonographies for her pain in abdomen showed enteritis with mesenteric lymphadenopathy, she was treated conservatively every time, until recently where the latest ultrasonography revealed presence of a jejunal diverticiulum. She was treated for Chron's disease which yielded no results.

A diagnostic laparoscopy was planned which showed evidence of a wide base globular lesion at the mesenteric border of the proximal jejunum. She was planned for exploratory laparotomy.

Intraoperative findings were suggestive of duplication of the midgut starting from 20cms distal to D-J junction upto the ileum about 30 cms proximal to Ileo-Cecal junction. The duplicated small intestine was found to be on the mesenteric side with a separate blood supply of its own, with a blind proximal end, a 2 cm atretic area in between and a small fistula connection both the guts at the end of the duplicated bowel in the ileum. Since resection of the entire segment was not possible, as it would land the patient in to malabsorption, side-to-side anastomoses at each end of the duplication segment was performed.

Postoperatively the patient was started oral feeding on 4th day. No anastomotic leak was noted. Pain subsided and patient was dischraged after suture removal. The histopathology report of the excised specimen was corresponding with the intraop findigs with ectopic gastric mucosae. The presence of gastric mucosa was the cause of pain in abdomen.

DISCUSSION

Duplications of the alimentary tract are rare anomalies with an estimated incidence of 1 : 4500 newborns [1]. Mekki et al [**2**] found in their case series that 5 out of 7 patients with duplication of the oesophagus had associated mediastinal mass and vertebral malformations. Duplications of the midgut have been reported as the most common among all ATDs [3], [4]. There have been a few cases reported of foregut duplication cysts lined by respiratory epithelium [5, 6]; however, there is a relative paucity of literature on the presence of midgut duplication cysts being lined by respiratory epithelium, with one case being reported in Arizona, USA [7]. The complications of duplication cysts are that of any diverticulum of the gastrointestinal tract including perforation, intussusception, bowel obstruction, and neoplastic change [7]. Manytimes it is associated with obstructive symptoms, which explains occassional history of constipation. The split notochord theory proposes a neural tube traction mechanism as an explanation for the 15% of enteric duplications associated with vertebral defects. Specifically, an embryologic error may result in abnormal diverticularization of the GI endoderm through the developing notochord at 4 weeks' gestation. This explains neurenteric cysts, which are proposed to be impaired separation of the notochord from intestinal endoderm and formation of neurenteric bands that, with

embryonal growth, produce traction diverticula [2, 8]. The duplication cyst is frequently encountered which is treated by excision. But for long segment, excision cannot be done as it can result in short-gut and malabsorbtion syndromes. Thus better to perform side to side anastomses of the long segments.

CONCLUSION

We have presented a case of Duplication of the midgut which is a rare presentation and usually associated with cysts in other parts of body.

REFERENCES

1. O'Neill J A, Rowe M I, Grosfeld J L. et al .Pediatric Surgery. Saint Louis, Missouri; Mosby 1998
2. Mekki M, Belghith M, Krichene I. et al . Esophageal duplications in children. Report of 7 cases. Arch Pediatr. 2001; 8 55-61
3. Bhat N A, Agarwala S, Mitra D K. et al . Duplications of the alimentary tract in children. Trop Gastroenterol. 2001; 22 33-35
4. Iyer C P, Mahour G H. Duplications of the alimentary tract in infants and children. J Pediatr Surg. 1995; 30 1267-1270
5. T. Khoury and L. Rivera, "Foregut duplication cysts: a report of two cases with emphasis on embryogenesis," World Journal of Gastroenterology, vol. 17, no. 1, pp. 130–134, 2011.
6. T. Theodosopoulos, A. Marinis, K. Karapanos et al., "Foregut duplication cysts of the stomach with respiratory epithelium," World Journal of Gastroenterology, vol. 13, no. 8, pp. 1279– 1281, 2007.
7. J. L. Baumann and C. Patel, "Enteric duplication cyst containing squamous and respiratory epithelium: an interesting case of a typically pediatric entity presenting in an adult patient," Case Reports in Gastrointestinal Medicine, vol. 2014, Article ID 790326, 4 pages, 2014….
8. T. Sadler, Langman's Medical Embryology, Lippincott Williams & Wilkins, Baltimore, MD, USA, 12th edition, 2011.