CASE REPORT

PERFORATED MECKEL'S DIVERTICULUM- A RARE CASE PRESENTATION

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ABSTRACT: Perforation of a Meckel's diverticulum is a rare complication. This case report is about a 9yr old child who presented to our emergency department with diffuse abdominal pain, vomiting and fever. He had leucocytosis and free fluid in the peritoneal cavity on USG. Erect x-ray abdomen shows gas under the diaphragm. A perforated appendix or a bowel perforation was suspected and a diagnosis of a ruptured MD was finally made by laparotomy.

INTRODUCTION: MD is a true intestinal diverticulum that results from the failure of the vitelline duct (omphalomesenteric duct) to obliterate during the 5th week of fetal development¹. MD is the most common congenital abnormality occurring in about 2% of the population. Meckel diverticulum is typically lined by ileal mucosa, but other tissue types are also found with varying frequency. The heterotopic mucosa is most commonly gastric (present in 50% of all MD's) and pancreatic mucosa is encountered in about 5% of diverticula; less commonly, these diverticula may harbour colonic mucosa². This is important because peptic ulceration of this or adjacent mucosa can lead to painless bleeding, perforation, or both.

CASE PRESENTATION: A 9 year old, previously healthy child, presented at the emergency room of Dept. of Surgery, AIMS, Bellur, with abdominal pain, that started in the left iliac fossa 24 hrs ago and progressed to be diffuse, accompanied with vomiting and high grade fever. Physical examination showed the patient to be pale and febrile (body temperature of 102 F) with diffuse tenderness along with rebound tenderness in the right iliac fossa. Guarding was noted in all the quadrants. Laboratory tests showed anemia (10.0g %) with leukocytosis (13000cells/cu mm) accompanied with polymorphonuclear predominance (89%) and normal blood biochemistry analysis. Erect X-ray abdomen showed gas under the diaphragm.

USG abdomen revealed echogenic free fluid in the peritoneal cavity with few septations in the RIF-? Pyoperitoneum. These findings led to the diagnosis of a bowel perforation. A laparotomy incision made and pyoperitoneum confirmed. Appendix was inflamed and the bowel inspected. A perforated MD found and resection anastomosis of ileum along with appendectomy done. The patient recovered uneventfully and 7 days later was discharged in a fine condition. Histopathological examination showed Meckel's diverticulitis with ectopic gastric tissue forming an adenoma.

DISCUSSION: Meckel's diverticulum can mimic appendicular perforation/bowel perforation in various ways and thus should be considered as a differential diagnosis. Only about 4-16% of cases will lead to complications³, which include haemorrhage, intussusceptions, inflammation and, occasionally, perforation, which occurred in our patient. Complications are much more common in males, and the incidence of complications decreases with age, with the majority occurring in pediatric population⁴.

CASE REPORT

The diagnosis of complicated MD presents a number of challenges because of its various presentations. The most common presentation in the pediatric age group is painless rectal bleeding. In a retrospective study of 71 pediatric patients with diagnosed MD, 55.5% of the patients initially presented with rectal bleeding⁵; however, this number varies among studies^{6,7,8}. In a study of 776 patients, Kusumoto et al. found that an accurate preoperative diagnosis was made only in 11% of patients presenting with symptoms other than bleeding, compared to 88% in bleeding patients⁹. Many of other presenting symptoms, such as abdominal pain and nausea, are non specific and may mimic appendicitis. In one study, 11% of children with complicated MDs were initially diagnosed with appendicitis⁶. Ueberrueck et al. found that 5 MDs were found incidentally in a series of 311 appendicectomies performed at one institution over 3 year¹⁰.

A suspicion of complicated MD should be present when dealing with a questionable diagnosis of perforated appendix/ bowel perforation, particularly in a pediatric population.

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CASE REPORT

Erect x-ray abdomen showing gas under the diaphragm

Perforated MD at the anti-mesenteric border of ileum

CASE REPORT

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