

Case Report

Axial Torsion and Gangrene of a giant Meckel's Diverticulum Mimicking Acute Appendicitis

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Abstract

Meckel's diverticulum is the most common congenital anomaly of gastrointestinal tract, occurring in 2% of the population. More than 80% of patients are asymptomatic. Complications like intestinal obstruction, bleeding and inflammation of Meckel's diverticulum occur in 4% of patients. The case of a 42-year old male patient with axial torsion and gangrene of giant Meckel's diverticulum is presented.

Introduction

Meckel's diverticulum (MD) is the most common congenital anomaly of gastrointestinal tract, occurring in 2% of the population.^{1,2} It develops when the ileal connection of the omphalomesenteric duct fails to completely close during embryonic development. The vast majority of patients (>80%) are asymptomatic.² Symptoms resulting from MD occur because of its complications,³ which are reported in 4% cases, with the most common being intestinal obstruction, bleeding and inflammation.^{1,4}

The case of a patient with axial torsion and gangrene of a giant MD, is presented.

Case Report

A 42-year-old male patient was admitted to our hospital with the presenting complaint of abdominal pain - located in the right lower quadrant. He had no other symptoms. The clinical examination revealed rebound tenderness in the right lower quadrant. Laboratory data showed a leukocyte count of 14000/mm³. The other laboratory values were within normal limits. Plain abdominal x-ray showed dilated small bowel loops. Ultrasound examination was reported as dilated small bowel loops in the right lower quadrant with 17 mm free fluid (during operation which was seen as reactional fluid).

An emergency appendectomy was planned with the diagnosis of acute appendicitis. At exploration, the appendix was found to be normal. A giant axially placed gangrenous MD, measuring 7.5 cm in length with 1.5 cm base, was found 80 cm proximal to the ileocecal valve (Figure). Diverticulectomy and appendectomy were performed. Pathology reported a normal appendix and a MD with gangrene.

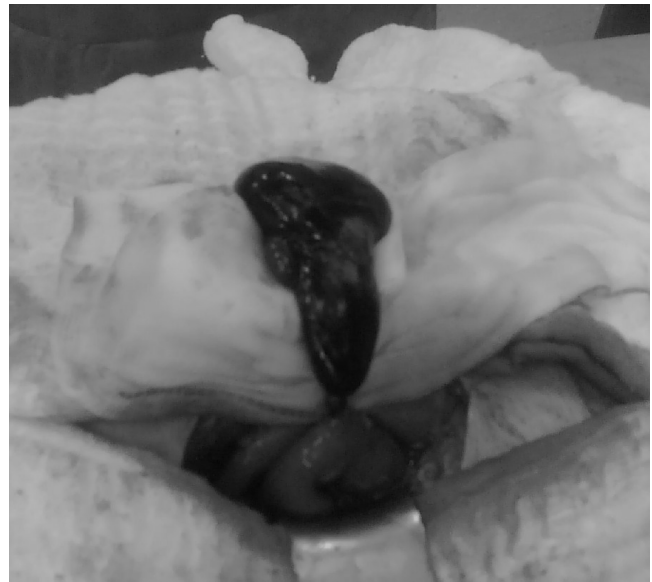


Figure: The giant axial torched gangrenous MD during operation.

Discussion

MD occurs on the antimesenteric border of the ileum and in 90% of the cases within 90 cm from the ileocecal valve.² Usually Meckel's Diverticulum is asymptomatic. A person has a 6.4% lifetime risk of developing a complication related to the diverticulum.⁵ The incidence of complications is evenly distributed over all ages.² Although no gender-based difference was found in studies, males are more prone to complications than females and therefore, MD is more often diagnosed in males.²

Axial torsion of a MD is a rare complication,^{1,2,6} and development of gangrene in MD is all the more rare. This complication generally occurs due to the attachment of the diverticulum to the umbilicus or to the ileal mesentery.² The average size of a MD is 3 cm and 90% are between 1 and 10 cm.⁴ The anatomical configuration, especially the diverticular length and base diameter is an important predisposing factor.⁴ A giant MD is defined as a diverticulum larger than 5 cm.¹

In our patient, axial torsion of the diverticulum occurred around its narrow base, resulting in decreased blood supply and gangrene. There was no attachment to

adjacent anatomic structures.

Conclusion

A unusual complication, torsion and gangrene of a giant MD was found in the presented case. As symptoms of the patient were considered as acute appendicitis, MD was diagnosed on laparotomy. Preoperative diagnosis of MD is usually difficult despite currently available techniques. Delay in the diagnosis of a complicated MD can lead to significant morbidity and mortality. A high index of suspicion is warranted to arrive at a correct diagnosis.

References

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