

Case Report: A Necrotic Giant Meckel's Diverticulum

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Abstract

Although a Meckel's Diverticulum is the most common congenital malformation of the gastro-intestinal tract, it mostly is discovered by chance and remains asymptomatic. However, a Meckel's Diverticulum can cause multiple complications with an incidence range of 4-16 per cent. In this case report, we present a patient at the emergency ward with symptoms of acute abdominal pain in the epigastric region. Laboratory findings showed elevated infection parameters and an abdominal computerized tomography scan revealed fat infiltration around a structure suspected to be a Meckel's Diverticulum. At emergency laparotomy, we found a fully necrotic giant Meckel's Diverticulum. As presented in our case, clinical decision making at the emergency ward remains challenging. Therefore, multiple factors should be considered and may lead to decision for an emergency laparotomy as a diagnostic and therapeutic tool.

Keywords: Case report; Meckel's diverticulum; Emergency laparotomy; Abdominal pain

Abbreviations

MD: Meckel's Diverticulum; CT: Computerized Tomography

Introduction

With a prevalence of approximately 2%-4%, a Meckel's Diverticulum (MD) is the most common congenital malformation of the gastro-intestinal tract [1]. This congenital malformation is due to the persistence of the vitello-intestinal duct and can be present in many anatomical variations. Mostly, a MD is discovered by chance and remains asymptomatic [1,2]. However, a MD can cause multiple complications, such as ulceration, perforation, haemorrhage, and internal obstruction due to intussusception or an adhesive band [1,2]. The overall incidence of complications due to MD ranges from 4%-16% [1].

Case Report

A forty four-year-old male visited the emergency ward with symptoms of acute abdominal pain in the epigastric region. He had bilious vomited once that day and had some blood in his stools the night before presentation. Besides neurofibromatosis and hypertension, the anamnesis revealed a previous episode with similar symptoms, which had been interpreted as a MD. According to the patient, this had been proven by an abdominal CT scan followed by conservative treatment.

On physical examination there was abdominal tenderness in the epigastric region, without signs of peritonitis. Laboratory findings showed leukocytosis and elevated C-reactive protein (respectively $13.1 \times 10^9/l$ (reference values $4.0-10.0 \times 10^9/l$) and 30 mg/l (reference value $<10 \text{ mg/l}$)). An abdominal CT scan showed infiltration of the fat around a structure, which was suspected to be a MD (Figure 1).

An emergency laparotomy was performed. Per operatively, we found a fully necrotic giant MD at the level of the ileum (Figure 2A) and a resection was performed using a bowel stapler (Figure 2B). The ileum and the stalk of the MD appeared vital. The giant MD measured 10 cm in length and 5 cm in width and on pathological examination the diagnosis was confirmed.

Post-operative recovery was uneventful and the patient was discharged within two days after surgery. The patient remained asymptomatic at follow-up. This case was reported according to the CARE guidelines [3].

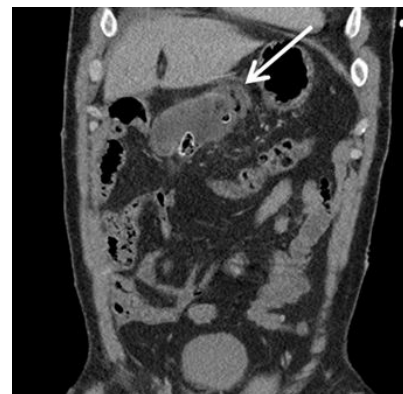


Figure 1: Abdominal CT scan showing fat infiltration around the Meckel's Diverticulum.



Figure 2A: Necrotic giant Meckel's Diverticulum at the site of the ileum.



Figure 2B: Ileum after resection of the giant Meckel's Diverticulum.

Discussion

Preoperative diagnosis of symptomatic MD remains difficult and therefore is often missed. This is caused by the extensive differential

diagnosis of symptomatic MD and the difficulties in imaging. Among various imaging techniques, computed tomography (CT) seems to play an important role in the diagnosis of symptomatic MD[4]. CT enterography is a new technique with a higher sensitivity in the diagnosis of MD [5].

At the emergency ward, evaluation of abdominal pain remains challenging. In our case, we illustrate the necessity of an emergency laparotomy in a patient with acute abdominal pain for diagnostic and therapeutic reasons. Multiple factors were taken into consideration in the decision to operate. The severity of the presentation in combination with the medical history of the patient outweighed the risks of an emergency laparotomy.

Conclusion

As presented in our case, clinical decision making at the emergency ward remains challenging. Therefore, multiple factors should be considered and may lead to decision for an emergency laparotomy as a diagnostic and therapeutic tool.

References

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