

Meckel Diverticulum as Severe Complication of Enterorrhagia

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Received: 02 Jan 2024

Accepted: 14 Feb 2024

Published: 19 Feb 2024

J Short Name: ACMCR

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Citation:

Bartko CH, Meckel Diverticulum as Severe Complication of Enterorrhagia. Ann Clin Med Case Rep. 2024; V13(3): 1-2

Keywords:

Meckel diverticulum; Severe bleeding; Ectopic gastric and pancreatic tissue

1. Summary

Meckel diverticulum is one of the possible reasons of acute hemorrhagic emergency cases which leads to massive enterorrhagia with life threatening situation. Diagnostics of such case is often complicated and the real reason is many times impossible to find. There has to be a concern about enteric bleeding usually in spring and autumn just like in cases of patients treated for gastric ulceration. We will present such case of these kinds of complications without any findings of etiology.

2. Introduction

Meckel's diverticulum is a small out pouching extending from the wall of the intestine and located in the lower portion of the small intestine. It is caused by the incomplete obliteration of the omphalomesenteric duct in the developing embryo and it is the most common congenital anomaly of the gastrointestinal (GI) tract. The incomplete obliteration of the duct results in a diverticulum in the small intestine.

The prevalence of Meckel diverticulum is usually noted to be approximately 2% of the general population. Some publications report a range from 0,2% to 4%. There are no differences in the prevalence of asymptomatic Meckel diverticulum between males and females with a male-to-female ratio ranging from 2:1 to 5:1 in children. But if the ectopic tissue contains gastric mucosa, Meckel diverticulum has a greater chance of becoming symptomatic [1].

2.1. 2% Rule of Meckel's Diverticulum

It is referred to by the rule of 2's : 2% of the population, within 2

feet of the ileo-coecal valve, 2 inches in length, two types of heterotypic mucosa and presentation before the age of two.

2.2. Risk factors

It is estimated that there is a 4% - 25% chance of complications occurring during the lifetime. The risk decreases with age. Infants and children are at highest risk for complications, with more than 50% of symptomatic. It is seen in association with other congenital anomalies, including esophageal atresia, imperforate anus, omphalocele, Crohn's disease [2].

2.3. Signs and symptoms of MD

The symptoms most commonly seen in young children is painless rectal bleeding. Symptoms of infection and blockage generally occur before adolescence, they can appear at any time in life and can cause mild to severe abdominal pain and discomfort.

2.4. Diagnosis of MD

While the bleeding is massive it is necessary to perform tests which can show the etage of bleeding:

- Gastro-bulbo-fibroscopy
- Colonoscopy
- Angio CT

When the bleeding is possible to slow or stop by using complete hemostyptic treatment and hemosubstitution with application of fresh frozen plasma. When patient is stable without signs of bleeding there is possibility of other variety of tests such as:

- CT with per-oral contrast with RTG observation of passage

through gastro-intestinal tract

- Exact colonoscopy after complete cleaning of the colon
- Double-balloon enteroscopy

Even with these methods there is a possibility of not finding the source or origin of bleeding [3].

3. Case Report

34-year caucasian male with anamnestic history of seasonal bleeding during spring and autumn. In that time the diagnostic methods didn't show any source of bleeding. He was treated by complete intravenous hemostyptic therapy and hemosubstitution 7 up to 9 units of blood, 6 times given frozen plasma.

He was admitted to out clinics with third attack of massive bleeding, there was given hemostyptic and hemosubstituting treatment, urgent gastro-bulboscopy completely negative, urgent colonoscopy with finding massive enterorrhagy without origin up to terminal ileum 10 centimeters behind Bauhin valve. Followed with angio CT without identification of origin of arterial bleeding, orientationally supposed to be located in the area of terminal ileum.

For this reason the patient obtained 7 units of blood, complete treatment as mentioned above, all diagnostic methods were performed except double-balloon enteroscopy which wasn't reachable.

Patient was hypotensive with need of treatment with vasopressors continuously. There was still anemia from previous 162 g/l down to 95 g/l.

After all used varieties of tests and possible treatments we decided to indicate him for surgery with possible appendectomy and revision of terminal ileum. Peroperative findings showed Meckel diverticulum on terminal ileum 22 centimeters from Bauhin valve. There was resection done with anastomosis end-to-end of ileum and appendectomy. Patient was discharged 4th day after surgery with no complications.

Macroscopically on the diverticulum there was thick mucous with numerous ulcerations as the source of the bleeding.

Histologically there was gastric ectopic mucous in MD with ulcerations.

4. Discussion

All clinicians should be aware of possibility of occurrence of ectopic tissue in MD, which is found in approximately 50% of cases not all of them are symptomatic, mostly consists gastric tissue in 60 to 85% and pancreatic tissue in 5 to 16%. There should awareness of diagnosis of MD in cases then patient shows signs of unexplained abdominal pain, nausea, vomiting or intestinal bleeding. Most of the patients have pain in right mesa-hypogastrium with signs as in cases of appendicitis, which is caused by complication of inflammation of Meckel diverticulum. Other complications are ulcerations, intestinal obstructions, diverticulitis perforations or neoplasms. But in general lower gastrointestinal hemorrhage is

the most common presentation of MD in children [2], in patients under 18, the most common sign is hemorrhage, while in adults it is intestinal obstruction, which was not our case, where bleeding was the main sign.

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