



Case Report

Meckel's diverticulum perforated by swallowed chicken bone in infant: A very rare finding

Omar Abdulqader Ajaj¹

¹Department of Pediatric Surgery, University of Anbar, College of Medicine, Baghdad, Iraq.

*Corresponding author:

Omar Abdulqader Ajaj,
Department of Pediatric
Surgery, University of Anbar,
College of Medicine, Baghdad,
Iraq.

abd.o85@yahoo.com

Received: 19 October 2024
Accepted: 04 December 2024
Published: 22 March 2025

DOI
[10.25259/KPJ_37_2024](https://doi.org/10.25259/KPJ_37_2024)

Quick Response Code:



ABSTRACT

A male infant with 1-year-old suddenly developed abdominal cramps, greenish vomitus, with constipation for 10 days' duration. The vomiting is green after each feeding. His past medical and surgical history was otherwise unremarkable. There is no previous history of foreign body ingestion. On physical examination, the child was ill, dehydrated, in pain, with tachycardia (H.R. 155 B/M); normal respiratory rate and temperature was 38.8 C with 100% oxygen saturation. His abdomen was moderately distended and tender on palpation. Erect abdominal X-ray with dilatation of loops of bowel and multiple air-fluid levels. Ultrasound of the abdomen with free fluid in the pelvic cavity. Laboratory workup revealed a high leucocyte count (19.000), hyponatremia, and hypokalaemia. The first diagnosis was of bowel obstruction. The infant was kept nil per oral. He received an intravenous fluid and electrolytes for resuscitation. A nasogastric tube was inserted. Surgical exploration was done in the operating theatre through a supraumbilical transverse incision; we found a swallowed chicken bone that impacted Meckel's diverticulum and caused perforation. The surgery was done under general anesthesia by resection of diverticulum, removal of impacted bone, and appendectomy. The perforated chicken bone has been removed. A drain was left in the pelvic cavity.

Keywords: Chicken bone, Meckel's diverticulum, Perforation

INTRODUCTION

Meckel's diverticulum was an unrare anomaly remnant of the omphalomesenteric duct. Meckel's is composed of whole intestinal wall layers and, therefore, is a true diverticulum of the ileum. The main aetiology of the diverticulum is remnant of omphalomesenteric duct fails to regress in the 5th-7th week of gestation.

CASE REPORT

A male infant with 1-year-old suddenly developed abdominal cramps, greenish vomitus, with constipation for 10 days' duration. The vomiting is green after each feeding. His past medical and surgical history was otherwise unremarkable. There is no previous history of foreign body ingestion. On physical examination, the child was ill, dehydrated, in pain, with tachycardia (H.R. 155 B/M); normal respiratory rate and temperature was 38.8 C with 100% oxygen saturation.

His abdomen was moderately distended and tender on palpation. Abdominal x-ray has been done that shows dilated bowel loops and air fluid level. Abdominal ultrasound shows free fluid in pelvic cavity. Laboratory workup revealed a high leucocyte count (19.000),

This is an open-access article distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 License, which allows others to remix, transform, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

©2025 Published by Scientific Scholar on behalf of Karnataka Paediatric Journal

hyponatremia, and hypokalaemia. The first diagnosis was of bowel obstruction. The infant was kept nil per oral. He received an intravenous fluid and electrolytes for resuscitation. A nasogastric tube was inserted. Surgical exploration was done in the operating theatre, and through a supraumbilical transverse incision, we found a swallowed chicken bone impacted in Meckel's diverticulum and caused perforation [Figures 1-3]. The surgery was done under general anesthesia by resection of diverticulum, removal of impacted bone, and appendectomy. The perforated chicken bone has been removed [Figure 3]. A drain was left in the pelvic cavity. Our infant kept nil per oral and electrolytes/intravenous fluid and antibiotics postoperatively. He started to pass stool on the 3rd post-operative day and started to drink clear fluid on the 5th post-operative day.

The child was discharged home in good condition. Now, the infant is on frequent follow-up visits and we check him in the out patient clinic.

DISCUSSION

Meckel's diverticulum was an unrare anomaly remnant of the omphalomesenteric duct. Meckel's is composed of whole intestinal wall layers and, therefore, is a true diverticulum of the ileum.^[1] The main aetiology of the diverticulum is vitellointestinal duct fails to regress in the 5th-7th week of gestation.^[2]

Frederick Meckel (in 1809) was the first one to describe Meckel's diverticulum.^[3,4]

Normally, the diverticulum is asymptomatic but if symptoms occur, the age of 2 years is the most common age of presentation. Meckel's was unlikely to be diagnosed clinically or imagistically, and it is often mistaken for other abdominal pathologies.^[3] The frequent complication of the diverticula is bleeding; a rare and unusual complication of foreign body ingestion (chicken/fish bones) was perforation of the Meckel's diverticulum, leading to an intestinal perforation that requires surgical exploration.^[5]

A recent review by Alghamdi and Raboei.^[1] found that seventy-nine cases of Meckel's diverticulum were impacted and perforated by foreign bodies (only 24 cases were among paediatrics). About 45% of cases were by swallowed fish bone but only seven cases of perforation due to chicken bone. Swallowed chicken bone with impact in Meckel's diverticulum was very rarely reported in English literature.^[1]

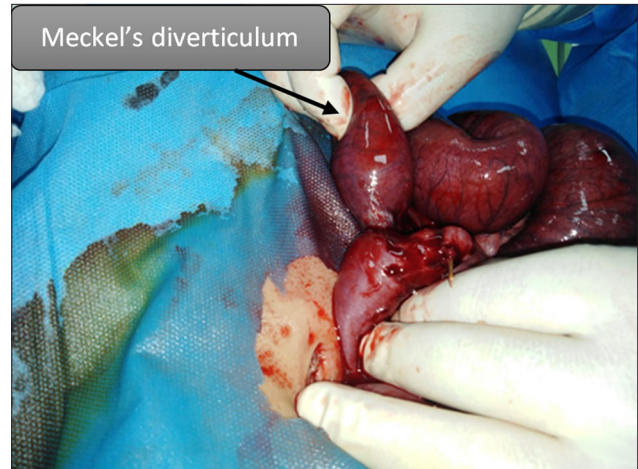


Figure 1: Intraoperative finding of Meckel's diverticulum.



Figure 2: Intraoperative finding of dilated ileum with chicken bone impacted into Meckel's diverticulum.



Figure 3: Chicken bone after removal from the Meckel's diverticulum.

CONCLUSION

To the best of the authors' knowledge, this is the first reported case of swallowed chicken bone impacted in Meckel's diverticulum in an infant of 1 year old. Perforated Meckel's diverticulum by swallowing chicken bone should be suspected in a child of intestinal obstruction.

Ethical approval: The report was approved by the Ethical Approval Committee in Anbar Medical College, approval number 134, dated 7th March 2023.

Declaration of patient consent: The authors certify that they have obtained all appropriate consent from the parent of the baby.

Financial support and sponsorship: Nil.

Conflicts of interest: There are no conflicts of interest.

Use of artificial intelligence (AI)-assisted technology for manuscript preparation: The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

REFERENCES

1. Alghamdi A, Raboei E. Perforated Meckel's diverticulum by chicken bone associated with terminal ilial volvulus in a child. *J Pediatr Surg Case Rep* 2020;59:101511.
2. Bidarmaghz B, McGregor H, Raufian K, Tee CL. Perforation of the Meckel's diverticulum with a chicken bone: A case report and literature review. *Surg Case Rep* 2019;5:15.
3. Santos B, Pinto A, Barbosa B, Simões VC, Silva DS, Davide J. Perforation of Meckel's diverticulum by a swallowed fish bone: Case report and literature review. *J Surg Case Rep* 2019;2019:rjz003.
4. Meckel J. Über die divertikel am darmkanal. *Arch Physiol* 1809;9:421-53.
5. Chan KW. Perforation of Meckel's diverticulum caused by a chicken bone: A case report. *J Med Case Rep* 2009;3:48.

How to cite this article: Ajaj OA. Meckel's diverticulum perforated by swallowed chicken bone in infant: A very rare finding. *Karnataka Paediatr J.* 2025;40:23-5. doi: 10.25259/KPJ_37_2024