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A CASE REPORT OF MECKEL'S DIVERTICULUM: OUR EXPERIENCE FROM SAVEETHA

General Surgery

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KEYWORDS

CASE NO. 1
A 27-year-old male patient presented to the emergency room with complaints of acute excruciating pain over the periumbilical region migrating to the right iliac fossa, insidious in onset and progressive in nature with low grade fever for 3 hrs and burning micturition for 3 days.

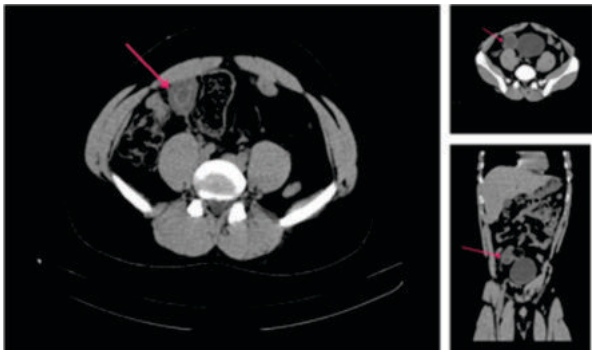
Diagnosed with having UTI 3 days back at another hospital. No history of nausea/vomiting/loose stools/hematuria. No known comorbidities. Not a known smoker or an alcoholic with no past medical or surgical history.

On Examination
- Blood pressure: 140/90mmhg
- Pulse rate: 108/min
- Temperature: 100*F
- Respiratory rate: 26/min with SpO2 maintaining at room air

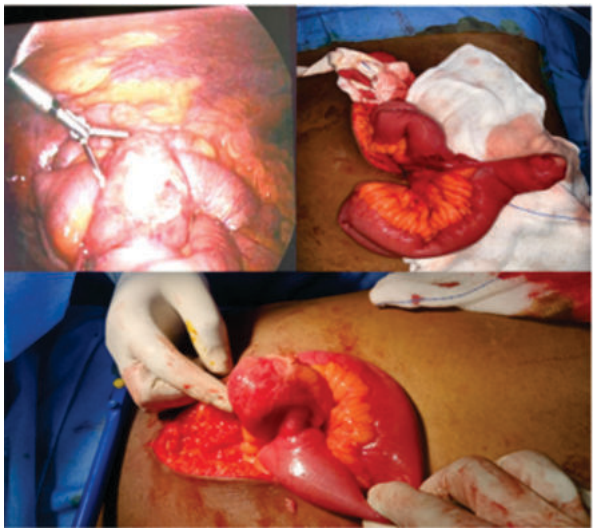
Per Abdomen Examination Showed That
- Scaphoid abdomen with all quadrants moving equally with respiration
- Soft
- Right iliac fossa tenderness present.
- Voluntary guarding present.

Provisional Diagnosis: Clinically suspected to have appendix/? Right Renal calculus

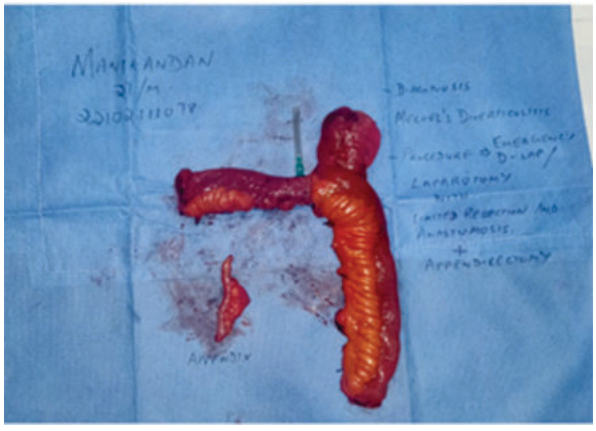
Investigations
- Blood picture showed elevated total count of 16000 with 83% neutrophils
- Ultrasound showed features of cystitis. And appendix could not be visualized due to dilated bowel loops.
- Provisional CT report showed 7 mm appendix with features of cystitis.
- Patient with an Alvarado score of 7 was suspected to be having appendicitis for which emergency lap/open appendicectomy proposed.



Surgical Findings
On table, patient was found to have MECKEL'S DIVERTICULITIS for which Emergency D LAP converted to laparotomy with limited resection and anastomosis with adhesiolysis and appendicectomy was performed.



Histopathology
Histopathological report showed MECKEL'S diverticulitis (suppuration inflammation) and reactive lymphoid hyperplasia of the appendix.



A-Segment of small intestine measuring 25 cm with a diverticulum measuring 7 cm which 7 and 14.5 cm from the resected ends. Cut surface of diverticulum partly covered by purulent exudate. B -

Appendix measuring 5.5 cm in length. Lumen appears narrowed and filled with fecal material.

CASE NO. 2

A 34-year-old male, presented to the emergency room with C/o

- Diffuse abdominal pain, non-radiating with loose stools since 3 days
- Multiple episodes of non-bilious vomiting since 3 days
- obstipation since 3 days
- No history of fever/symptoms suggestive of UTI. No known comorbidities. Not a smoker or an alcoholic with no known past medical or surgical history.

On Examination

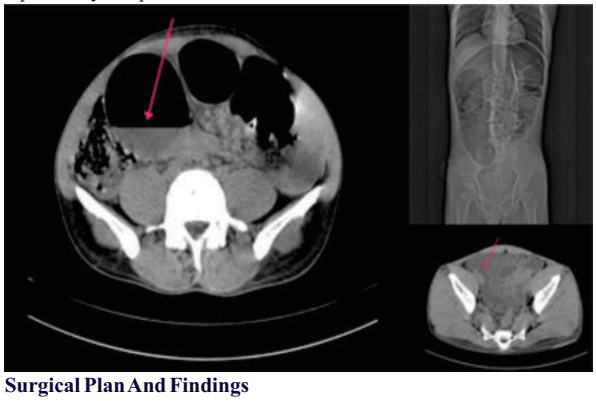
- Blood pressure: 130/90mmhg
- Pulse rate: 102/min
- Temperature: 98.6*F
- Respiratory rate: 22/min with SpO2 maintaining at room air

Findings On Per Abdomen Examination

- Distended abdomen
- Diffuse tenderness
- Guarding+
- Resonant on percussion.

Findings On Per Rectal Examination: Collapsed rectum with no fecal staining.

Clinically suspected to have intestinal obstruction. Laboratory blood parameters were normal. Ultrasound showed features of dilated bowel loops with decreased peristalsis suggestive of interstitial obstruction. X ray showed coffee bean appearance suggestive of sigmoid volvulus. Screening CT confirmed the same. Patient was proposed- exploratory laparotomy and proceed.



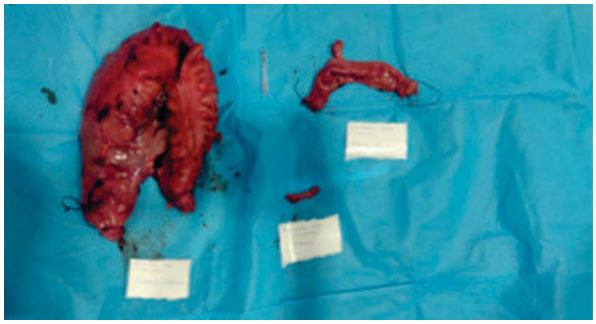
Surgical Plan And Findings

On table, patient was incidentally found to have MECKEL'S diverticulum when he underwent emergency laparotomy with sigmoidectomy, limited resection of small bowel with resection of MECKEL'S diverticulum and appendectomy.

Histopathology Findings

HPE showed Edelman and congestion of sigmoid colon, MECKEL'S diverticulitis, with reactive lymphoid hyperplasia of the appendix.

A-Sigmoidectomy specimen measuring 29 cm in length. Lumen appears dilated, flattened mucosa. B-Segment of ileum measuring 14 cm with a diverticular outpouching measuring 2.5 cm seen at a distance of 4.5 cm and 7.5 cm from the resected ends. C Appendix measuring 4.5 cm. Lumen narrowed.



CASE NO.3

A 27-year-old male patient presented to the emergency room with complaints of diffuse abdominal pain, insidious in onset and progressive in nature for the past three days.

History of vomiting and obstipation for the past 2 days.
History of fever for 1 day.

No history of symptoms suggestive of Urinary tract infection. No known comorbidities. Not a known smoker or an alcoholic with no past medical or surgical history.

On Examination

- Blood pressure: 130/90mmhg
- Pulse rate: 116/min
- Temperature: 99*F
- Respiratory rate: 24/min with SpO2 maintaining at room air
-

Per abdomen examination showed that- Distended abdomen. Diffuse tenderness present. Guarding present. No rigidity.

Per rectal examination showed a collapsed rectum with no fecal staining.

Provisional diagnosis: Clinically suspected to have bowel obstruction.
Investigations:

- Blood picture showed elevated total count of 14000
- Ultrasound showed dilated small bowel loops. Suggestive of small bowel obstruction. Appendix could not be visualised.
- Xray abdomen erect showed dilated small bowel loops.

Patient was taken up for diagnostic laparoscopy and proceed.

Surgical Findings

On table, patient was found to have

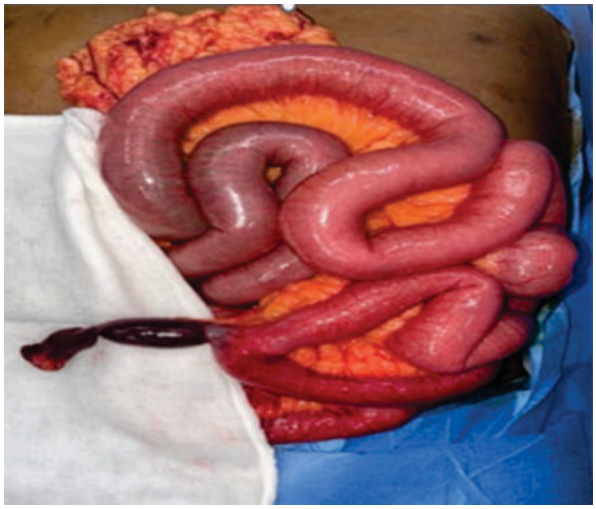
1. Gangrenous, Meckel Diverticulum Seen Encircling Ileal Loops
2. Encircled Ileal Loop Were Congested
3. Appendix Enlarged in Size
4. Free Fluid Around 200 Ml Noted In Pelvis

Emergency D LAP converted to laparotomy - band release with resection of small bowel having meckel diverticulitis and end to end anastomosis. Followed by appendicectomy.

Histopathology

Histopathological report showed Features consistent with Meckel's diverticulum with evidence of hemorrhagic infarction and Reactive lymphoid hyperplasia of Appendix.

Sections from proximal and distal margins show viable wall of small intestine with focal areas of intramucosal hemorrhage. Sections from small intestine show viable mucosa and edematous submucosa, muscular and serosal layers show congested blood vessels and minimal inflammatory infiltrate. Sections from diverticulum show full thickness areas of transmural ischaemic necrosis along with numerous congested blood vessels and hemorrhage. Section shows appendiceal wall with numerous prominent lymphoid follicles in the lamina propria.



DISCUSSION

Meckel's diverticulum is the most common congenital malformation of the gastrointestinal tract (present in 2%-4% of population) due to persistence of the congenital vitello-intestinal duct. Bleeding from Meckel's diverticulum due to ectopic gastric mucosa is the most common clinical presentation, especially in younger patients, but it is rare in the adult population. The complications in adults include: obstruction; intussusception; ulceration; haemorrhage; and, rarely, vesicodiverticular fistulae and tumours.[1]

Meckel's diverticulum is the most common congenital malformation of the gastrointestinal tract—most studies suggest an incidence of between 0.6% and 4%. It is also the most common cause of bleeding in the paediatric age group. This is due to the persistence of the proximal part of the congenital vitello-intestinal duct. It is a true diverticulum, typically located on anti-mesenteric border, and contains all three coats of intestinal wall with its separate blood supply from the vitelline artery. In some surgical textbooks, it is known by the rule of two: present in 2% population, 2 ft from the ileo-caecal junction and 2 in. long, although many anatomical variations exist.[2]

The treatment of choice for the symptomatic Meckel's diverticulum is the surgical resection. This can be achieved either by the diverticulectomy or by the segmental bowel resection and anastomosis, especially when there is palpable ectopic tissue at the diverticular-intestinal junction, intestinal ischaemia or perforation. There has been an ongoing debate about the excision of Meckel's diverticulum when found as an asymptomatic incidental finding. During an operation, it is usually impossible to determine by inspection or palpation whether incidentally found Meckel's diverticulum is at increased risk of the complications or not. Mackey and Dineen have suggested statistically significant risk factors such as males less than 40 years, diverticulum longer than 2 cm and that containing ectopic mucosa.[3] However, Park et al[4] favoured removal of incidental asymptomatic Meckel's diverticulum in males, patients younger than 50 years, diverticulum greater than 2 cm and presence of histological abnormal tissue. Stone et al[5] did not recommend removal of incidental asymptomatic Meckel's diverticulum in women. Onen et al[6] recommended its removal in symptomatic as well as in asymptomatic cases in children younger than 8 years. Ueberrueck et al[7] proposed that in cases of gangrenous or perforated appendicitis, an incidentally discovered Meckel's diverticulum should be left in place, whereas in an only mildly inflamed appendix it should be removed. Soltero and Bill et al[8] mentioned a 4.2% lifetime complication risk of Meckel's diverticulum versus 9% morbidity after incidental resection, and did not favour incidental diverticulectomy.

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