

CASE REPORT

**A RARE CASE OF ILEO-ILEAL KNOT – FIRST EVER CASE REPORT IN INDIAN
RADIOLOGY LITERATURE**

***¹Dr.S.Saraswathi, ²Dr.M.Adaikkapan, ³Dr.M.Sivakolunthu, ³Dr.S.Sethurajan, ³Dr.S.Rajadirajan
and ⁴Dr.T.Vinoth**

¹Post Graduate, Department of Radiodiagnosis, Rajah Muthiah Medical College and Hospital,
Annamalai University, Chidambaram – 608002, Tamilnadu, India.

²Professor and Head, Department of Radiodiagnosis, Rajah Muthiah Medical College and Hospital,
Annamalai University, Chidambaram – 608002, Tamilnadu, India.

³Professor, Department of Radiodiagnosis, Rajah Muthiah Medical College and Hospital, Annamalai
University, Chidambaram, 608002, Tamilnadu, India.

⁴Post Graduate, Department of Radiodiagnosis, Sri Ramachandra University, Chennai-600116,
Tamilnadu, India.

Article History: Received 28th October, 2016, Accepted 7st November, 2016, Published 8th November, 2016

ABSTRACT

Intestinal knotting or compound volvulus is defined as intertwining of two separated loops of bowel. Ileo-sigmoid knotting (Intestinal knot syndrome) is the commonest type of knotting. Other types are Appendico-ileal knot, Ileo-caecal knot, Caeco-sigmoid knot and Ileo-ileal knot. Ileo-ileal knot is a very rare entity with only few cases reported in the surgical literature. To our knowledge there is no Indian literature in radiology reporting ileo-ileal knot.

Keywords: Ileo-Ileal Knot, Case Report

1.INTRODUCTION

A 70 years old gentleman presented with complaints of abdominal pain of one-week duration, which was more the previous day. He gave history of vomiting of 2 days duration. He had no similar illness in the past. He was a known diabetic, on treatment for last 30 years. He had no other co morbidities. On examination, he was well built and nourished. Per abdominal examination, he was found to have ascites with mild diffuse tenderness in the lower abdomen. Other systems did not reveal any significant abnormalities clinically. X ray showed features suggestive of Ascites with no air fluid levels.

Ultrasound examination showed Gross Ascites with few dilated small bowel loops.

CT abdomen was done to look for cause of tenderness. It showed dilated small bowel loops with positive Beak sign with 3 beaks, Radial distribution sign and Whirl sign. There was no evidence of intramural air. CECT was suggested but was deferred, as the patient did not consent for contrast examination.

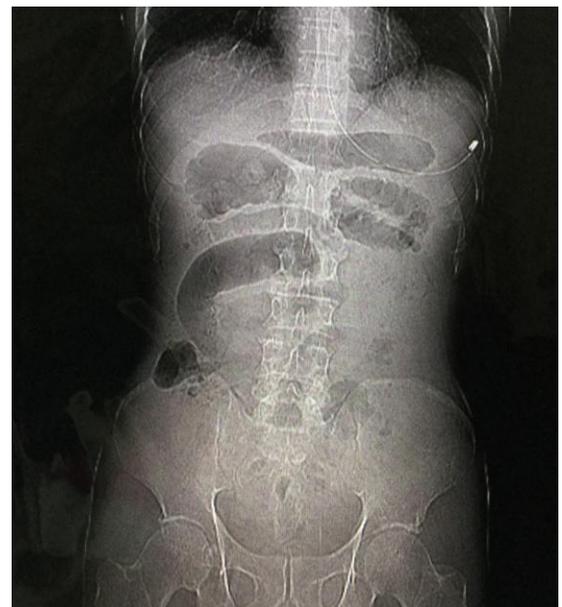
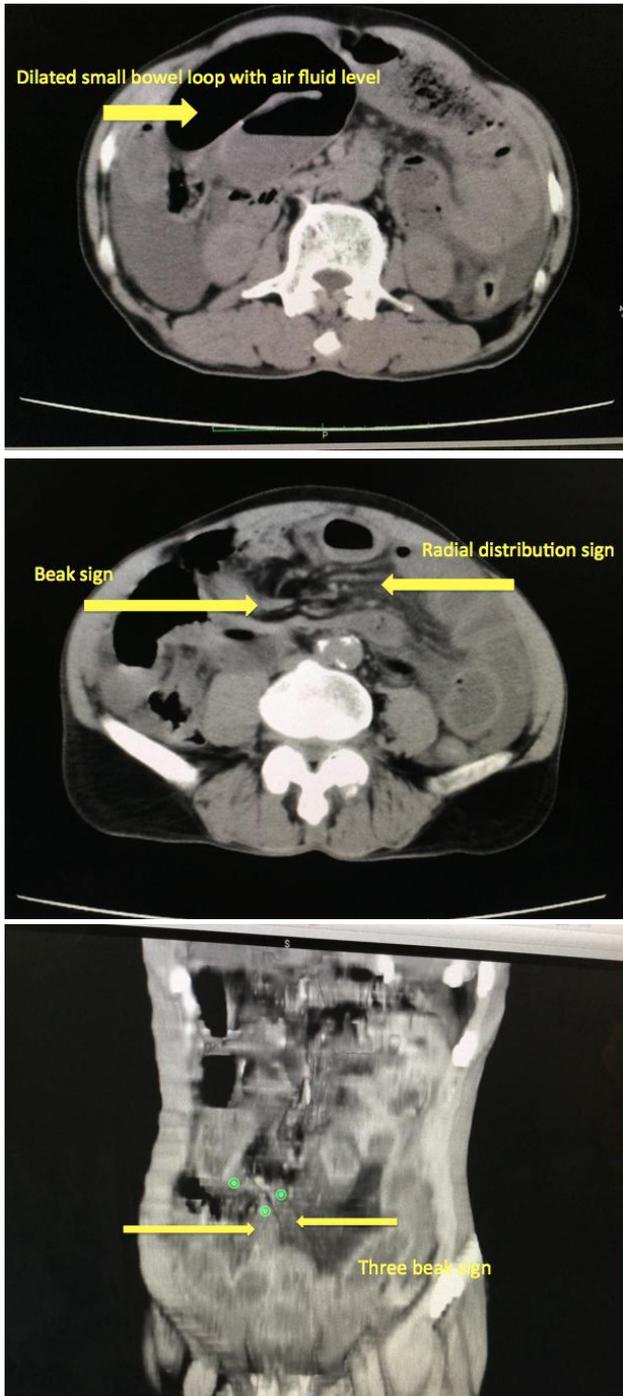


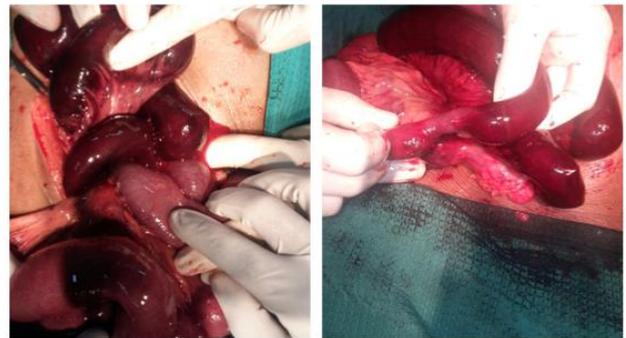
Fig: Scanogram shows gross ascites with dilated bowel loops.

**Corresponding author: Dr. S.Saraswathi, ¹Post Graduate, Department of Radiodiagnosis, Rajah Muthiah Medical College and Hospital, Chidambaram – 608002, Tamilnadu, India.*



The surgeon was notified immediately. The patient was planned for emergency laparotomy, but the patient and his family were not willing for surgery.

Finally with proper informed consent, patient was taken up for surgery at the end of 15 hours from the time of diagnosis. Laparotomy revealed Ileo-ileal knot with gangrene of the involved segment.



Summarization of findings:

A 70 years old diabetic gentleman presented with abdominal pain for one-week and vomiting of 2 days duration. On examination he had gross ascites. CT abdomen showed dilated small bowel loops with positive Beak sign with 3 beaks converging at the region of ileal loops, Radial distribution sign and Whirl sign, suggestive of closed loop obstruction of small bowel (ileum) with 3 beaks representing knotting at the level of ileal loops.

Radiological diagnosis was Ileo-ileal knot with viable ileal loops.

2.DISCUSSION:

Intestinal knotting or compound volvulus is defined as intertwining of two separated loops of bowel.

Ileo-sigmoid knotting (Intestinal knot syndrome) is the commonest type of knotting. Other types are Appendico-ileal

knot, Ileo-caecal knot, Caeco-sigmoid knot and Ileo-ileal knot.

Ileo-ileal knot is a very rare entity with only few cases reported in the literature. To our knowledge there is no Indian literature in radiology reporting ileo-ileal knot.

Etiology of ileoileal knotting is still an unresolved question with no answers found in literature. Possible pathogenesis reported in literature is that:

It may be related to high fibre diet and excessive motility of the ileum (bowel with long mesentery) or

Inflammation followed by adhesion and subsequent torsion.

Radiological Findings:

- X ray Abdomen (Erect) – May not be contributory
- CT Abdomen:

Features of closed loop obstruction (Mbengue et al., 2015)

U shaped configuration of the enclosed closed loop.

Radial distribution of the mesenteric vessels with fat stranding.

Beak sign

- Two beaks representing torsion or volvulus.
- Three beaks representing a knot at the convergent point.

Triangular shape loops.

Whirl sign

Two collapsed adjacent loops.

Features of Strangulation

Bowel wall thickening with target sign in contrast study

Sero hematic inter loop effusion

Haemorrhage within the bowel wall

Parietal pneumatosis

Portal and mesenteric venous gas

- Clinical significance of early diagnosis:

Rapid deterioration and progression of Ileo-ileal knotting (more rapid than any other knotting syndromes) is inevitable.

Report should include the length of the small bowel from the ileocaecal valve if it is less than 10 cm, which helps the surgeon to decide between ileal resection with or without colonic resection.

3.CONCLUSION:

Ileo-ileal knot is a very rare entity with very few cases reported so far in literature with further handful reported before the development of gangrene. Rapid deterioration and progression of Ileo-ileal knotting (more rapid than any other knotting syndromes) is inevitable. Awareness and high suspicion of this entity might help salvage the small bowel in time.

4.BIBLIOGRAPHY:

Mbengue, A, Ndiaye, A, Soko, TO, Sahnoun, M, Fall, A, Diouf, CT, Régent, D and Diakhaté, IC. 2015. Closed loop obstruction: Pictorial essay- Diagnostic and interventional imaging (2013). Diagn Interv Imaging, 96(2):213-20.
