

 <p>ISSN NO. 2320-5407</p>	<p>Journal Homepage: - <a href="http://www.journalijar.com">www.journalijar.com</a></p> <p><b>INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)</b></p> <p>Article DOI: 10.21474/IJAR01/13334 DOI URL: <a href="http://dx.doi.org/10.21474/IJAR01/13334">http://dx.doi.org/10.21474/IJAR01/13334</a></p>	
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### RESEARCH ARTICLE

#### TOURNIQUET APPENDIX: RARE ETIOLOGY OF ORGANIC ACUTE INTESTINAL OBSTRUCTION

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#### Manuscript Info

##### Manuscript History

Received: 29 June 2021  
Final Accepted: 30 July 2021  
Published: August 2021

#### Abstract

Acute appendicitis is the most common surgical emergency. A bowel obstruction due to the appendicitis is in most cases functional with a paralytic ileus; mechanical bowel obstructions are rare or exceptional. We describe a rare case of a mechanical bowel obstruction due to a strangulation of the last ileal loop by the appendix.

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#### Introduction:-

An appendiceal tourniquet is a very rare aetiology of mechanical bowel obstruction [1]. The connection between an acute appendicitis and bowel obstruction was described by Hotshkiess in 1901 and Howkes in 1909 [2, 3]. The clinical and radiological features of a small bowel obstruction can obscure the clinical picture of appendicitis [1].

#### Case report

A 49-year-old patient with no particular pathological history was admitted to the department of surgical emergencies with abdominal pain, distention, vomiting, and constipation that had lasted 3 days.

On examination, he was feverish (38 °C) and the abdominal examination found an important distention, tympanism, and diffuse abdominal tenderness. The rectal examination was unremarkable. Plain abdominal x-rays showed multiple air-fluid levels suggesting a small bowel obstruction. The biological parameters were within normal limits, except for leucocytosis. CT scan did not show the origin of the intestinal obstruction (figure 1, 2) and the decision of a quick surgical exploration was made due to the evolution of the patient's state. A laparotomy was performed and the exploration found an important distention of the small bowel due to a strangulation of the last ileal loop by the vermicular appendix.



Figure 1:-

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Figure 2:-

The surgical treatment consisted of a midline laparotomy, appendectomy with retrograde emptying of the intestinal anse, and peritoneal washing and drainage. The post-operative suites were good and the patient was discharged on the second post-operative day.

### Discussion:-

Acute appendicitis and acute intestinal obstruction are among the most common digestive emergencies. The aetiology of the intestinal occlusions can be classified as either mechanical or functional.

The appendicular origin of occlusions often results from a functional mechanism in the form of a paralytic ileus. The mechanical form of occlusion caused by the appendix can be described as a tourniquet appendix. In our case, an obliteration of the intestinal lumen by strangulation of the last ileal loop by the vermiform appendix was observed. An intestinal obstruction was the clinical presentation in our case and we decided to manage it surgically via a midline laparotomy.

The intervention in all of the reviewed cases in the literature was via a midline laparotomy or open appendectomy [4], except for one case reported by Quallaf which used a laparoscopic intervention.

Mechanism of obstruction	Preoperative diagnosis	Gender	Age	Procedure	Number of cases	References
A constricting ring around the terminal ileum created by phlegmonous appendicitis	Intestinal obstruction	Male	20	A midline laparotomy	1	L. Awale [1]
Perforated appendicitis adherent to terminal ileum, colon and cecum	Mechanical small bowel obstruction	7 Males/ 3 Females	46.4	A midline laparotomy	10	S. Harris[5]
The ileal segment was strangulated by a band composed of inflamed appendix and omentum	Mechanical small bowel obstruction of unknown	Male	24	A midline laparotomy	1	L. Bhandari[4]

	aetiology					
The appendix was wrapped around the last loop of the ileum	Mechanical small bowel obstruction	Female	78	A midline laparotomy	1	M. Assenza [6]
The tip of the inflamed appendix was adherent to the terminal part of ileum forming a ring-like structure with herniation of the terminal 60 cm of ileum through the ring	Small intestinal obstruction	Male	26	A midline laparotomy	1	C. Chatterjee [7]
The appendix had surrounded a loop of the terminal ileum, causing a closed-loop obstruction	Small intestinal obstruction	Female	86	A midline laparotomy	1	M. O'Donnell [8]
Thickened oedematous appendix, with the tip adherent to the terminal ileum.	Small intestinal obstruction	Male	53	Laparoscopy	1	A. Al-Qallaf [9]

### Conclusion:-

Acute appendicitis is by far the most common reason for an emergency digestive consultation in the world. An acute mechanical bowel obstruction caused by the appendix, and more specifically the tourniquet appendix, remains very rare. The clinical picture is dark and the imagery might not be conclusive, which is why it should be considered in any case of a mechanical occlusion with unknown aetiology.

### Bibliography:-

- Awale L, Joshi B, Rajbanshi S, Adhikary S. Appendiceal syndrome: a very rare complication of a common disease. World J Gastrointest Surg. 2015;7(4):67–70. ISSN 1948-9366 (online).
- Hotchkiss L. Acute intestinal obstruction following appendicitis. A report of three cases successfully operated upon. Ann Surg. 1901;34:660–677. [PMID: 17861052].
- Hawkes F III. The prevention of intestinal obstruction following operation for appendicitis. Ann Surg. 1909;49:192–207. [PMID: 17862302].
- Harris S, Rudolf L. Mechanical small bowel obstruction due to acute appendicitis. Ann Surg. 1966;164(1):157–161.
- Bhandari L, Mohandas PG. Appendicitis as a cause of intestinal strangulation: a case report and review. World J Emerg Surg. 2009;4:34.
- Assenza M, Ricci G, Bartolucci P, Modini C. Mechanical small bowel obstruction due to an inflamed appendix wrapping around the last loop of ileum. G Chir. 2005;26:261–266.
- Chatterjee C, Dash S, Gupta S, Ghosh S. Appendiceal knotting causing small bowel strangulation. J Res Med Sci. 2014;19:1016–1017.
- O'Donnell ME, Sharif MA. Small bowel obstruction secondary to an appendiceal tourniquet. Ir J Med Sci. 2009;178:101–105. doi: 10.1007/s11845-008-0125-3.
- Qallaf A, Shuaib A, Al-Sharaf K, Behbehani A. Acute appendicitis as a rare cause of mechanical small bowel obstruction case report. Qatar Med J. 2017;4. <http://dx.doi.org/10.5339/qmj.2017.4>.