An Unusual Case of Caecal Volvulus due to Appendicitis, Successfully Managed by Caecopexy

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ABSTRACT
Caecal volvulus is a rare cause of intestinal obstruction. Caecal volvulus precipitated by acute appendicitis is even rarer. We report an unusual case of caecal volvulus with acute appendicitis as a cause. A 55-year female presented in surgical emergency with 3 days history of abdominal pain, distension and absolute constipation; and 2 days history of vomiting. Her past surgical history was significant for hysterectomy 5 years back. On examination, abdomen was distended and bowel sounds exaggerated. X-ray abdomen erect showed a single large air fluid level in the right hemiabdomen. A preoperative diagnosis of intestinal obstruction due to adhesions was made and patient prepared for exploratory laparotomy. On exploration, a huge caecum was lying in the midline and twisted around a band arising from the appendix and attached deep into the pelvis. The appendix was densely inflammed. The volvulus was de-twisted in a counter clockwise manner. Viability of the caecum was confirmed and appendectomy was done. Caecopexy was performed and abdomen was closed. Postoperative recovery of the patient was uneventful and she was safely discharged on 5th postoperative day.

Key Words: Appendicitis. Caecum. Volvulus.

INTRODUCTION
Caecal volvulus is a rare cause of intestinal obstruction. Caecal volvulus precipitated by acute appendicitis is even rarer. We report an unusual case of caecal volvulus with acute appendicitis as a cause. First noted by Hildanus in the 16th century and later reviewed by Rokitansky in 1837, it is a rare condition with a reported incidence ranging from 2.8 to 7.1 per million people (PMP) per year.1-5 There are two prerequisites for caecal volvulus to occur: a segment of mobile caecum and ascending colon and a point of fixation about which torsion may occur. The mobility results from either incomplete embryological rotation of the bowel or improper developmental fusion of the mesentery of the caecum and ascending colon with the posterior parietal peritoneum.

In addition to the prerequisite of a freely mobile caecum, several additional predisposing factors have been implicated in the genesis of caecal volvulus, although the relative importance of these factors is not clear. These include concomitant acute medical problems, pregnancy, distal colonic obstruction, previous laparotomy, and gynaecological procedures.6 Previous abdominal surgery, resulting in intra-abdominal adhesions which could act as a fulcrum for caecal volvulus, has been considered important by several investigators.

We report an unusual case of caecal volvulus with acute appendicitis as a cause. Only six such cases have been reported in literature.4,7-10 No such report has been reported in literature from Pakistan.

CASE REPORT
We present a case of 55-year female, known hypertensive for the last 5 years, who presented in surgical emergency with 3 days history of abdominal pain, distension and absolute constipation; and 2 days history of vomiting. Her past surgical history was significant for hysterectomy 5 years back. On examination, abdomen was distended and bowel sounds exaggerated. X-ray abdomen erect showed a single large air fluid level in the right hemiabdomen. A preoperative diagnosis of intestinal obstruction due to adhesions was made and patient prepared for exploratory laparotomy. On exploration, a huge caecum was lying in the midline and twisted around a band arising from the appendix and attached deep into the pelvis. The appendix was densely inflammed. The volvulus was de-twisted in a counter clockwise manner. Viability of the caecum was confirmed and appendectomy was done. Caecopexy was performed and abdomen was closed. Postoperative recovery of the patient was uneventful and she was safely discharged on 5th postoperative day.

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day and was discharged on the 5th postoperative day. Her recovery has been uneventful and she has returned to her routine household work.

**DISCUSSION**

Apart from the embryological and developmental causes, presumably any surgical procedure which might require some degree of medial visceral rotation or disruption of the fusion plane between the caecum and ascending colon with the lateral peritoneum could provide sufficient mobility to allow caecal volvulus to occur, e.g. left colectomy, gastric resection, incarcerated femoral hernia repair, appendectomy, and various laparoscopic procedures.1,3

In female patients, previous gynaecological operations may be a more important factor in predisposing to caecal volvulus than appendectomy, which has been suggested as a major antecedent. This may account for the fact that caecal volvulus in western societies is considerably more common in women than in men.8 In this patient, identifiable risk factors were the female gender, advancing age, previous history of hysterectomy 5 years back, and an attack of appendicitis.

Appendicitis as a cause of caecal volvulus was first reported by Cochrane in 1929.10 Since then, a total of 6 cases of caecal volvulus caused by pathology in the appendix have been reported.10 Management for these cases has varied from right hemicolecystomy to simple suture fixation of the caecum in the right iliac fossa. 

Caecal volvulus is an emergency and requires urgent surgical treatment. Right hemicolecystomy is the treatment of choice in the presence of caecal gangrene. There is considerable controversy regarding the preferred operative management of caecal volvulus in the absence of gangrenous bowel. Consorti et al. suggested that the most appropriate operative strategy for a given patient can be determined only by the operating surgeon after taking into consideration the surgical expertise, patient's physiological status, viability of the involved intestines, the potential perioperative morbidity and mortality, and the risk of volvulus recurrence.2

Reduction of the volvulus as the only operative maneuver without caecopexy was reported to be associated with high recurrence rate.9 There are conflicting reports about the role of caecopexy in the management of caecal volvulus in the absence of gangrene. While some authors7 advocate resection of all cases of caecal volvulus regardless of caecal viability, others5 advocate that resection should not be performed in patients with viable caecum as it has been associated with a twofold increased rate of mortality and morbidity as compared to caecopexy. O'Mara et al. performed caecopexy in 18 patients in their series with no operative deaths and a low rate of postoperative complications.6 There were no recurrences among all the 18 patients during a follow-up that averaged 4.8 years. They concluded that caecopexy can be performed safely and quickly without opening the bowel and with low recurrence rate.6

This patient fortunately had a viable caecum after reduction and so we successfully managed the volvulus by caecopexy. No resections were necessary. At 6 months follow-up, patient was healthy without any complications.

Caecal volvulus with viable caecum is a disease which can be managed by simple procedure, i.e. caecopexy without putting the patient under risk of right hemicolecystomy.

**REFERENCES**


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