

# Torsion of an Epiploic Appendix Pretending as Acute Appendicitis

Kamran Ahmad Malik

## Abstract:

Torsion of an epiploic appendix is a rare surgical entity. Its unusual symptomatology, wide variation in physical findings and the absence of helpful laboratory and radiological studies makes it very difficult to diagnose pre-operatively. This is a report of this rare entity found in a patient upon diagnostic laparoscopy performed for suspected acute appendicitis.

*From the Department of Surgery, Sultan Qaboos University Hospital, Muscat, Sultanate of Oman.*

*Received: 06 Jan 2010*

*Accepted: 05 Apr 2010*

*Address correspondence and reprint request to: Dr. Kamran Ahmad Malik, Department of Surgery, Sultan Qaboos University Hospital, Muscat, Sultanate of Oman.*

*E-mail: surgeonkamran@yahoo.com; kamisr@hotmail.com*

doi:10.5001/omj.2010.62

## Introduction

Torsion of appendices epiploicae of the colon was reported for the first time by Payr in 1902.<sup>1</sup> Covered by visceral peritoneum, these fatty structures are attached throughout the length of the colon and can measure up to 10 cm in length. Ischemia or gangrene of these structures secondary to torsion can lead to a clinical picture of intra-abdominal distress that is rarely correctly diagnosed preoperatively. Diagnostic laparoscopy is a valuable adjunct to the early diagnosis and management of this often-confounding condition.

This report discusses this rare entity in a patient who presented in the emergency department with a one day history of right lower abdomen pain suspecting acute appendicitis, but found to have twisted gangrene of one of the epiploic appendix along the ascending colon which was excised laparoscopically. The confusing picture and rarity prompted this report and review of literature.

## Case Report

A 40 years old female not known to have any medical problems presented in the accident and emergency department with one day history of colicky right lower abdominal pain associated with nausea and anorexia. There was no history of vomiting, fever, urinary or bowel complaints. The patient used to have this pain on/off for a long time and the patient did not recall when it started.

There was no history of menstrual irregularity. However, the patient had a couple of caesarean sections in the past. On clinical examination, she was a vitally stable obese lady with normal body temperature. On abdominal examination, she was found to have a small umbilical hernia with a defect of approximately 01 x 01 cm which was reducible. She was having significant amount of tenderness at her right iliac fossa with rebound tenderness, roving sign and psoas tests were all positive.

Her baseline blood workup including complete blood count, C-reactive protein and ultrasound examination of abdomen and pelvis all were within normal range. She was admitted for observation but clinical findings did not settle, hence she was taken up for a diagnostic laparoscopy on the following evening under general anesthesia.

On laparoscopy, it was found that she had a 04 x 01 cms round to oval dark brown mass partly covered by mucopurulent exudates originating from the anti mesenteric border of the mid ascending colon which was attached to the anterior abdominal wall with a long pedicle, raising a strong suspicion of torsion of epiploic appendix leading to gangrene. The appendix and the rest of the pelvic structures were grossly normal.

The patient underwent appendectomy and removal of the lump laparoscopically. Her umbilical hernia was repaired in Mayo's fashion. She had an uneventful recovery and was discharged in stable condition. Her histopathology report was consistent with torsion of appendices epiploicae. The vermiform appendix was reported to be normal on histology.

## Discussion

The embryology and anatomy of appendices epiploicae have been described by many authors, though Vesalis was the first to describe it in man in 1543. These are fatty structures which are attached throughout the length of the colon and are covered by visceral peritoneum. They can measure up to 10 cm in length. They are bigger in size and more prominent on the left side of the colon compared to the right side.

A normal adult human being usually has approximately 50-100 appendices epiploicae.<sup>2</sup> No definite function has been attributed to these structures. It has been suggested that they may have bacteriostatic properties, may serve as a protective cushion to blood vessels or may have a role in the absorptive action of the large bowel.

The disease commonly occurs in the adult population with a peak incidence at around the age of 40 years, affecting the sigmoid colon more than the caecum and ascending colon.<sup>3</sup> It is subject to torsion, the most common complication, and to thrombosis, infarction and gangrene or it can cause obstruction by forming a band to the abdominal wall or to an adjacent loop of bowel and thus kink the bowel or a loop of the small bowel may be caught under the adjacent band or it may initiate an intussusception.

In cases of chronic torsion of the appendix epiploica, the blood supply is shut off; saponification and calcification of fat contents takes place and the pedicle atrophies.

Finally, the appendix epiploica detaches from the colon and becomes a peritoneal loose body. It is not uncommon to find small loose bodies during laparotomy.<sup>4</sup>

The site of pain may vary depending on the location of the appendage involved. Thus, the disease may mimic acute appendicitis, as in this case, acute cholecystitis or acute diverticulitis. Preoperative diagnosis of this condition is rarely made. Both ultrasound and CT scan can be used for reaching the diagnosis of epiploic appendagitis.<sup>5,6</sup>

The infarcted appendix has a characteristic sonographic appearance. It shows as a hyper echoic non-compressible ovoid structure near the colonic wall. The use of color Doppler demonstrates the absence of blood flow in these lesions.

In addition to confirming the diagnosis in doubtful cases; CT scan is also useful in the follow up of patients treated conservatively. At the present time, a laparoscopic exploration of the peritoneal cavity will establish the correct diagnosis and the treatment can be provided during the same procedure.<sup>7</sup>

## Conclusion

Acute epiploic appendicitis is a rare condition that can cause a diagnostic dilemma in cases of acute abdominal pain, particularly on the right side pretending as acute appendicitis. Conservative treatment with analgesia and antibiotics is usually safe. In cases when the diagnosis is reached during operative exploration, the treatment is usually ligation and excision of the lesion. Laparoscopy being the most useful tool, offers correct diagnosis and treatment in the same setting.

## Acknowledgements

The author reported no conflict of interest and no funding was received on this work.

## References

1. DuBose JJ, Jenkins DM, Quayle CM, Dress AL, Cotlar AM. Laparoscopic resection of infarcted appendices epiploicae of the colon. *Curr Surg* 2005 May-Jun;62(3):362-364.
2. Bandyopadhyay SK, Jain M, Khanna S, Sen B, Tantia O. Torsion of the epiploic appendix: An unusual cause of acute abdomen. *J Min Access Surg* 2007;3:70-72.
3. Carmichael DH, Organ CH Jr. Epiploic disorders. Conditions of the epiploic appendages. *Arch Surg* 1985 Oct;120(10):1167-1172.
4. Takada A, Moriya Y, Muramatsu Y, Sagae T. A case of giant peritoneal loose bodies mimicking calcified leiomyoma originating from the rectum. *Jpn J Clin Oncol* 1998 Jul;28(7):441-442.
5. Hollerweger A, Macheiner P, Hubner E, Rettenbacher T, Gritzmann. Epiploic appendagitis: sonographic findings in 28 cases. *Ultraschall Med* 2000;4:239-244.
6. Danse EM, Van Beers BE, Baudrez V, Pauls C, Baudrez Y, Kartheuser A, et al. Epiploic appendagitis: color Doppler sonographic findings. *Eur Radiol* 2001;11(2):183-186.
7. Vázquez-Frias JA, Castañeda P, Valencia S, Cueto J. Laparoscopic diagnosis and treatment of an acute epiploic appendagitis with torsion and necrosis causing an acute abdomen. *JSL S* 2000 Jul-Sep;4(3):247-250.