A Rare Case Report of Isolated Tuberculous Caecal Perforation Presented as Acute Appendicitis

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Abstract

Background: Koch's abdomen is a common problem in India, with significant morbidity and mortality. A tuberculous caecal perforation without the involvement of adjacent ileum and ascending colon is very rare.

Case Presentation: We report the case of a 23 years old man with clinical features of acute appendicitis. On laparotomy showed a caecal perforation with normal ileum, ascending colon and appendix. A caecal resection with end to end ileoascending anastomosis done. Histopathology confirms tuberculous granulomas of the caecum.

Conclusions: We report this extremely uncommon case of caecal tuberculosis. This is very important as the incidence of tuberculosis is increasing in developing countries as well as developed.

Keywords: *Caecal resection, ileoascending anastomosis, intestinal tuberculosis*

Introduction

Perforation peritonitis is a quite common surgical emergency. Colonic perforations are rare, caecum being rarer. Caecal perforation is uncommon in adulthood. It may be secondary to several disorders like distal colonic malignancy, diverticulitis, and inflammatory bowel disease[1]. We report a 23-year young adult man presented with acute appendicitis on clinical examination and ultrasound but have caecal perforation without appendicitis. Intestinal tuberculosis is still endemic in India. Any part of the intestine may be affected. However, a primary caecal perforation due to tuberculosis is rare, with normal ileum and ascending colon[2].

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Case report: A 23-year-old male patient presented with a chief complaint of right lower abdominal pain from 3 day's duration. He was having a fever of 2 days. On examination, he had fever and tachycardia. There was localized tenderness and positive Blumberg sign in the right iliac fossa. The bowel sounds were absent in the right iliac fossa. The total leucocyte count was raised (13000/Cu mm). No e/o free air under the diaphragm on the chest X-ray. Ultrasound of the abdomen was normal except marked probe tenderness in the right iliac fossa.

A preoperative diagnosis of acute appendicitis was done, and the patient was taken up for emergency laparotomy. A gridiron incision was made to approach the caecum. On inspection, there was caecal perforation with the formation of a localized abscess. An appendix was normal macroscopically. Perforation was of size 4cm by 3 cm with marked mesenteric lymphadenopathy(see figure 1). Ileocecal resection along with appendix with a hand-sewed end to end ileo-ascending anastomosis was performed. The largest mesenteric lymph node was sent along with a resected specimen for histopathological examination.

The patient's postoperative course was uneventful.

Histopathological examination reveals tuberculous granulomatous lesion of the caecum. (see figure 2)

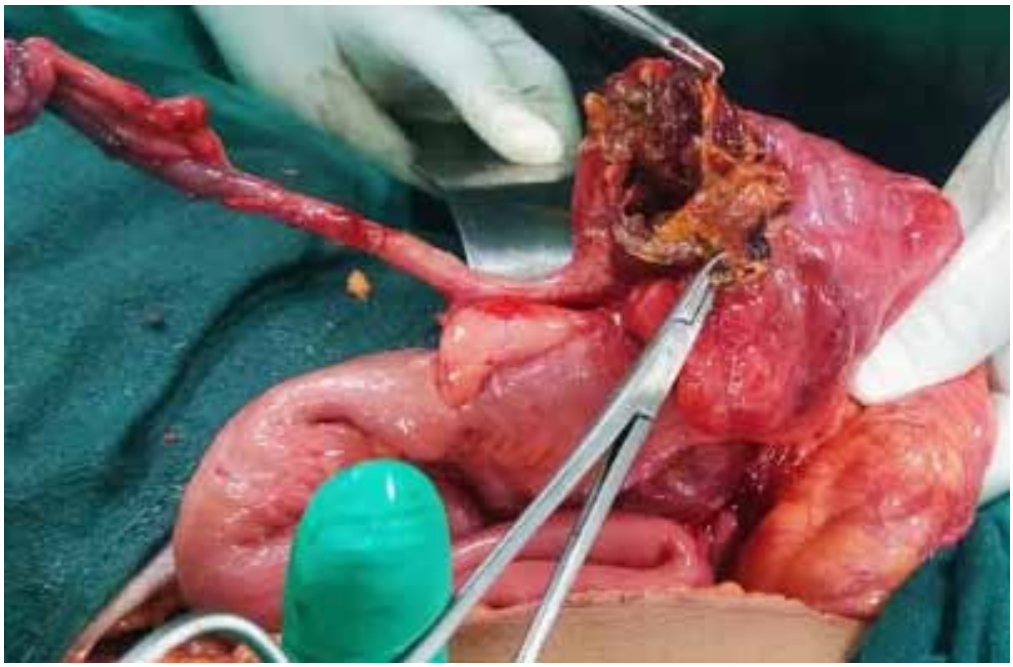

Figure 1. Shows large caecal perforation with normal appendix and ileum

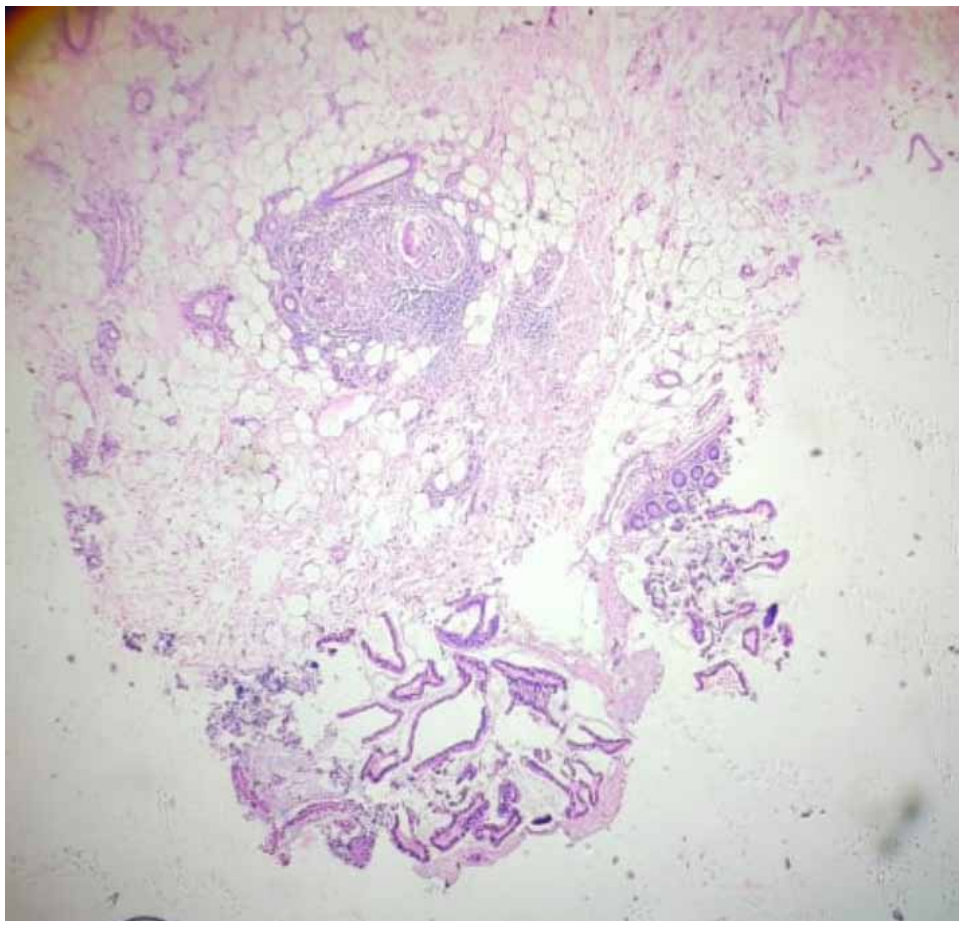

Figure 2: Shows a tuberculous granulomatous lesion of the caecum.

In a view of the histopathology report, his chest x-ray and the Mantoux test was negative for tuberculosis. Erythrocyte sedimentation rate (ESR) was 20 mm at end of 1 hour. Anti-tuberculosis chemotherapy was prescribed for six months. (isoniazid, rifampicin, pyrazinamide, and ethambutol for two months, and isoniazid and rifampicin for the remaining 4 months), with good response and 8 kilograms of weight gain.

Discussion

Isolated tubercular caecal perforation, is a very rare disorder[1]. Even caecal perforation of any etiology is very rare and as per Wong and Naqvi et al (2011)[2], he quoted only nine case reports. One more case was reported by Sharma et al[1] in 2018 and hence only 11 cases published to date including a case report of Wong and Naqvi et al (see Table 1). The most common surgery performed was right hemicolectomy for caecal perforation. The simple closure is having less morbidity. But there is no sufficient evidence is available to support this[3].

Table 1: Past case reports of caecal perforation with management

Sr.No.	Past case reports	Surgical management	References
1	Multiple (two) perforations of caecum	a limited resection of the diseased caecal wall with primary closure was done along with a diverting loop ileostomy	Sharma et al 2018[1]
2	Appendicular base perforation	Omental patch repair	Wong and Naqvi:2011[2]
3	7 case reports of caecal diverticular perforation by Papapolychroniadis C. et al (2004) Ghoneim et al (1995), Dorfman et al (1990) Mosca et al (1997). Vitali et al (1998) Cole et al (2009), Mauvais et al (1999)	Right hemicolectomy was done in most of the cases	Wong and Naqvi:2011[2]
5	Perforation of the cecum with cesarean section. Wesch et al (1980)	The perforation was oversewn	Wong and Naqvi:2011[2]
6	Caecal perforation secondary to tuberculosis	A right hemicolectomy with an ileostomy	Jain et al (2010)[3]

As per from above table Jain et al (2010)[3] report a case of primary tubercular caecal perforation similar to the present case.

Calista. Harbaugh et al[4] present a case of a 16-year-old boy diagnosed with acute uncomplicated appendicitis on ultrasound, had idiopathic cecal perforation with a normal appendix on histopathology. Presentation-wise is similar to the present case but not due to tuberculosis[33].

Hakan Guven et al[5] found in his series of 48 patients (without caecal perforation) of right hemicolectomy (32) and Ileocecal resection (16), only six cases of tuberculous granuloma of ileocaecal part of the intestine but not associated with perforation. The present case was having similar histopathology of tuberculous granuloma but with caecal perforation.

Yatndra kashid[6] report a case of acute appendicitis. At operation found to have multiple perforations in the caecum secondary to ileocaecal tuberculosis for which right hemicolectomy was performed. This case is similar to the present case except for ileum is also affected by tuberculosis.

Amad N. Khan et al[7] also present a case of caecal perforation due to tuberculosis of caecum but it was along with tuberculosis of the lung. Similar to the present case but it was not having pulmonary tuberculosis. A few other studies reflected on different aspects of TB and abdominal surgeries[8-13].

Conclusion

Isolated tuberculous caecal perforation is a very rare disease process. Hence for diagnosis of it requires a high index of suspicion. Surgical intervention with appropriate anti-tubercular chemotherapy is the definitive management.

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Conflict of Interest: Nil.

References

1. Sharma R et al. Spontaneous perforation of caecum, a rare entity: case report and review of the literature. Int Surg J 2018; 5:1946-8.
2. Wong and Naqvi: Appendicular perforation at the base of the caecum, a rare operative challenge in acute appendicitis, a literature review. World Journal of Emergency Surgery 2011 6:36.
3. Jain D et al.: Primary tubercular caecal perforation: a rare clinical entity. BMC Surg 2010, 10:12.
4. Calista. H et al. Case report of idiopathic cecal perforation presenting as acute appendicitis on ultrasound, J Ped Surg Case Reports. J Ped Surg Case Reports 2016,11: 28-30.
5. Hakan G et al. Emergency right hemicolectomy for inflammatory cecal masses mimicking acute appendicitis. World Journal of Emergency Surgery 2014, 9,7.
6. Yatindra K, Isolated Caecal Perforation Secondary to Ileocaecal Tuberculosis, BHJ 2005; 47 (1): 69-70.
7. Khan A et al., Caecal, perforation from TB and the Law of Laplace, Journal of Surgical Case Reports, 2015, 1–3.
8. Sharma, S.K., and K. Dheda. "What Is New in the WHO Consolidated Guidelines on Drug-Resistant Tuberculosis Treatment?" Indian Journal of Medical Research 149, no. 3 (2019): 309–12
9. Sharma, S. et al. "Impact of Nicotine Replacement Therapy as an Adjunct to Anti-Tuberculosis Treatment and Behaviour Change Counselling in Newly Diagnosed Pulmonary Tuberculosis Patients: An Open-Label, Randomised Controlled Trial." Scientific Reports 8, no. 1 (2018).
10. Gupta, V., and A. Bhake. "Assessment of Clinically Suspected Tubercular Lymphadenopathy by Real-Time PCR Compared to Non-Molecular Method on Lymph Node Aspirates." Acta Cytologica 62, no. 1 (2018): 4–11.
11. Gupta, V., and A. Bhake. "Reactive Lymphoid Hyperplasia or Tubercular Lymphadenitis: Can Real-Time PCR on Fine-Needle Aspirates Help Physicians in Concluding the Diagnosis?" Acta Cytologica 62, no. 3 (2018): 204–8.
12. Modi, S et al. "Role of Adenosine Deaminase in Pleural Fluid in Tubercular Pleural Effusion." Journal of Datta Meghe Institute of Medical Sciences University 13, no. 4 (2018): 163–67.
13. Jindal, R., and M. Swarnkar. "Outcomes Are Local: A Cross Sectional Patient Specific Study of Risk Factors for Surgical Site Infections in Major Abdominal Surgeries." Journal of Krishna Institute of Medical Sciences University 9, no. 1 (2020): 43–50.