



Case report

Anorectal tuberculosis as a chronic rectal mass mimicking rectal prolapse in a child—a case report

Kamal Pandit^{a,*}, Suman Khanal^a, Shekhar Bhatta^a, Andrew B. Trotter^b^a Institute of Medicine, Tribhuvan University, Kathmandu, Nepal^b Division of Infectious Disease, Immunology and International Medicine, University of Illinois College of Medicine at Chicago, Chicago, USA

ARTICLE INFO

Keywords:

Gastrointestinal tuberculosis
Colonoscopy
Anorectal tuberculosis
Pediatric tuberculosis
Nepal

ABSTRACT

Tuberculosis of the colon commonly involves the ascending, transverse, or sigmoid colon while rectal involvement in tuberculosis is uncommon and poorly characterized. We report a six-year-old male from Nepal who presented with abdominal pain and difficulty passing stool for two years. On per rectal examination, palpation revealed a circumferential rectal mass. On further evaluation, CT scan showed mural thickening and luminal narrowing in the ano-rectum. Colonoscopy with biopsy showed caseating granuloma and positive acid fast bacilli culture consistent with tuberculosis. After starting anti-tubercular therapy, the patient's abdominal pain resolved and the patient was able to pass stool normally within two weeks. Colonoscopy three months after starting treatment showed complete resolution of the mass. Gastrointestinal tuberculosis should be considered in cases of children from endemic areas who present with a rectal mass.

1. Background

Pediatric gastrointestinal (GI) tuberculosis (TB) is rare compared to pulmonary TB but it has similar prevalence across all pediatric age groups [1]. In the pediatric population only 0.3% of TB cases have abdominal involvement compared to 3% in the adult population [2–4]. GI TB accounts for only 1% of total extra pulmonary TB [5] and isolated involvement of ano-rectum and colon is rare [6,7]. Due to non-specific signs and symptoms, GI TB can mimic other infectious processes, malignancy and autoimmune disorders and has markedly increased morbidity and mortality compared with pulmonary TB [8]. Cases of isolated ano-rectal TB are rarely described in case series [9]. Although there are several reports and case series describing GI TB in Nepal [10], isolated ano-rectal TB has not been reported in the literature.

2. Case presentation

A 6-year-old male child presented to a tertiary hospital in Nepal with the complaint of pain throughout the abdomen but increased intensity in the left lower quadrant for two years. The pain was gradual in onset and dull in nature with no radiation. His abdominal pain increased during defecation. The pain was constant throughout the day and no relieving factors were described. The patient also had a history of straining during defecation, passage of string-like stool which was

occasionally blood stained and abdominal distension. There was also a history of significant weight loss over last six months with multiple episodes of self resolving, non-bilious vomiting for two weeks before current presentation. There was no history of fever, chronic cough, hemoptysis, chest pain or decreased appetite.

On examination, his temperature was 99.5° Fahrenheit and blood pressure and pulse were within normal limits for his age. His weight was 13 kg, which is below the first percentile for weight for his age [11]. Abdominal examination revealed a distended but non-tender abdomen in all quadrants. Bowel sounds were present. Digital rectal examination revealed a circumferential mass 2 cm from anal verge through which a finger could not be passed. There was no visible perianal fistula.

3. Investigations

Laboratory investigations revealed a normal white blood cell count and platelet count, a hemoglobin of 10.4%, serum lactate dehydrogenase (LDH) of 675 U/L (normal < 460) and erythrocyte sedimentation rate (ESR) of 20 mm/hr. His urea and creatinine were within normal limits and an HIV ELISA was non-reactive. Mantoux test showed 14 mm of palpable induration after 72 hours. Chest radiography was normal. Sputum acid fast staining was negative and sputum acid fast bacilli (AFB) culture showed no growth after 6 weeks. Colonoscopy

* Corresponding author. Institute of Medicine, Tribhuvan university, Kathmandu, Nepal.

E-mail address: kamalpandit33@gmail.com (K. Pandit).

<https://doi.org/10.1016/j.amsu.2018.07.012>

Received 3 January 2018; Received in revised form 9 May 2018; Accepted 26 July 2018

2049-0801/© 2018 The Authors. Published by Elsevier Ltd on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

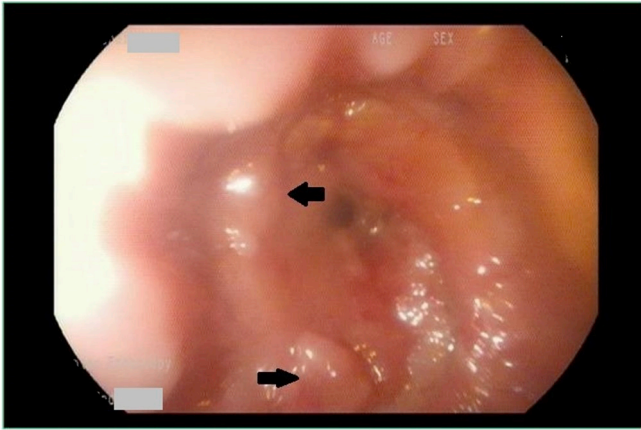


Fig. 1. Colonoscopy showing circumferential growth in anal canal.

showed a circumferential growth in the anal canal with narrowing of lumen (Fig. 1). Contrast enhanced computerized tomography (CECT) scan of the abdomen and pelvis showed a circumferential enhancing mural thickening involving the rectum and anal canal, with luminal narrowing in the anorectum (Fig. 2). The remaining region of the colon was normal in appearance both by colonoscopy and CECT scan. CECT scan also showed a normal ileocecal region.

The patient underwent biopsy of the rectal mass which showed multiple granulomas with caseating necrosis (Fig. 3) with no evidence of malignancy. Tissue acid fast staining was negative but mycobacterial culture was positive. Based on this, a diagnosis of anorectal tuberculosis was made.

4. Treatment, outcome and follow UP

The patient was started on antitubercular therapy consisting of 3 months of isoniazid, rifampicin, pyrazinamide and ethambutol followed by 6 months of isoniazid and rifampicin. There were no signs and symptoms of adverse drug reactions during the course of treatment. Three months after the start of antitubercular therapy a repeat colonoscopy showed no remaining rectal mass. After six months of follow-up he was completely asymptomatic.

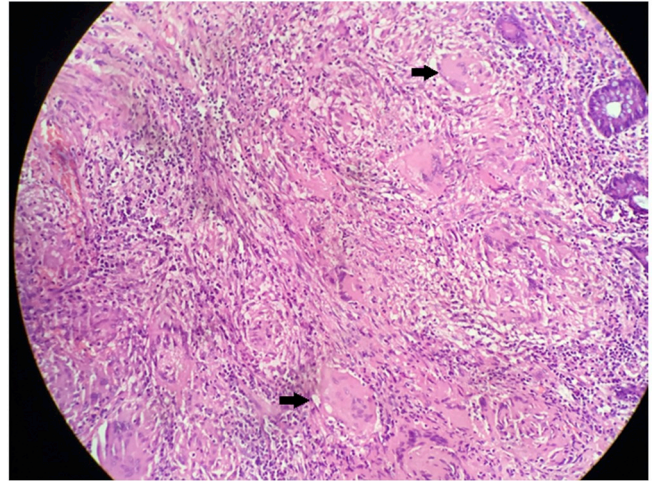


Fig. 3. Histopathological examination of specimen from anal canal showing multiple granulomas with caseating necrosis.

5. Discussion

GI TB most commonly involves the ileocecum followed by jejunum and colon [6]. Tuberculosis in the ileocecal region accounts for 64% of total cases of GI TB [12] whereas isolated involvement of colon accounts for only 10% [6,7]. In a study involving 37 patients who had GI TB, only one had involvement of the rectum [9]. However, among immune compromised patients, including patients living with HIV/AIDS, the incidence of GI TB with isolated involvement of colorectal region was more common [6]. In cases of colonic involvement, cecal involvement is the most common, followed by involvement of the transverse colon, rectum and ascending colon [13] while anal involvement is rare [9]. Ano-rectal tuberculosis may present in six forms as: fistula-in-ano (most common), ulcer with an undermined edge, short and annular strictures with a firm and nodular surface, multiple small mucosal ulcers as a part of miliary disease, a lupoid form with a sub mucosal nodule and mucosal ulceration and a verrucous form with smooth wart-like excrescences [14]. In a young patient with hematochezia, constipation and constitutional symptoms from an endemic

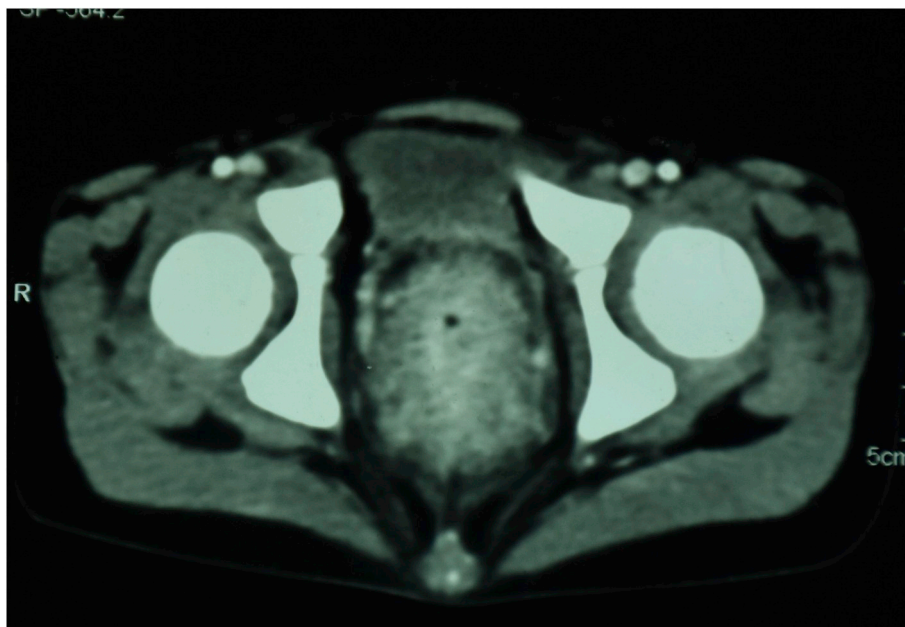


Fig. 2. Contrast enhanced CT pelvis showing mural thickening with narrowing of lumen.

area, there should be a high index of suspicion for ano-rectal TB [15]. Hematochezia, which was described in our case, is likely due to mucosal trauma due to the passage of hard stool through the narrowed ano-rectal area rather than a direct effect of TB [12]. As ano-rectal TB presents as a circumferential growth in the ano-rectal region, it may be confused with rectal prolapse in older children when it is visible from anus [16].

Common radiological findings in GI TB include a colonic stricture or a polypoidal growth [17] and on colonoscopy mucosal nodules, ulcers and strictures are common findings [9]. The differential diagnoses of GI TB includes rectal prolapse, Crohn's disease, amebic colitis, pseudo-membranous colitis and malignancy. Definitive diagnosis of colorectal tuberculosis includes colonoscopy guided biopsy with histopathology examination, AFB staining and AFB culture. Molecular method such as PCR is preferred for tissue samples which are AFB culture positive to distinguish *Mycobacteria tuberculosis* from atypical mycobacterium and can be used to identify genetic markers of drug resistance. Although PCR is highly specific, its limited availability in many parts of the world in which TB is endemic limits its utility.

When diagnosed early, GI TB in children responds well to anti-tubercular therapy preventing unnecessary surgical interventions. In contrast to other causes of colonic strictures, medical treatment is preferred in cases of tubercular stricture [18]. In our case, the patient improved dramatically with anti-tubercular therapy and follow up colonoscopy showed complete resolution of the mass lesion. Patients with GI TB should receive at least six months of anti-tubercular therapy which includes an initial two months of isoniazid, rifampin, pyrazinamide and ethambutol [3] and can be extended to up to 9–12 months depending on response to therapy [6]. In cases of a gastro-intestinal stricture due to TB which is unresponsive to medical therapy, endoscopic balloon dilation is a therapeutic option [19].

Consent

Written informed consent was obtained from the patient's father for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Ethical approval

This is a case report. The consent was taken from patient's father. This is not a research study so ethical approval is not required.

Sources of funding

There is no any source of funding for this case report.

Author contribution

1. Kamal Pandit wrote the report.
2. Suman Khanal-He took the pictures of the colonoscopy, CT scan and histopathology.
3. Shekhar Bhatta-He searched the relevant articles for references

and wrote some portion of discussion.

4. Andrew B Trotter-He provided support and mentorship for development, literature review, writing and revision of the case report into its final version.

Conflicts of interest

There is no any conflicts of interest.

Research registry number

This is a case report. This is not a research study.

Guarantor

Kamal Pandit. He is the corresponding and first author of this case report.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.amsu.2018.07.012>.

References

- [1] M. Delisle, et al., Paediatric abdominal tuberculosis in developed countries: case series and literature review, *Arch. Dis. Child.* 101 (3) (2016) 253–258.
- [2] R.S. Veeragandham, et al., Abdominal tuberculosis in children: review of 26 cases, *J. Pediatr. Surg.* 31 (1) (1996) 170–176.
- [3] M. Sharma, et al., Abdominal tuberculosis, *Indian J. Med. Res.* 120 (4) (2004) 305.
- [4] Angeline A. Lazarus, et al., Abdominal tuberculosis, *Disease-a-Month*, 53 (1) (2007) 32–38.
- [5] C. Romelaer, et al., Anal abscess with a tuberculous origin: report of two cases and review of the literature, *Gastroenterol. Clin. Biol.* 31 (1) (2007) 94–96.
- [6] U. Debi, et al., Abdominal tuberculosis of the gastrointestinal tract: revisited, *World J. Gastroenterol.*: WJG 20 (40) (2014) 14831.
- [7] Taieb, et al., Tuberculosis of rectum mimicking malignancy. A case report and review of literature abdominal surgery, *Offic. J. Am. Soc. Abdom. Surg., Inc* (2012–2013), <http://www.abdominalsurg.org/journal/2013/tuberculosis-rectum-mimicking-malignancy.html>.
- [8] S. Rasheed, et al., Intra-abdominal and gastrointestinal tuberculosis, *Colorectal Dis.* 9 (9) (2007) 773–783.
- [9] S. Mukewar, et al., Tuberculosis of the colon: endoscopic features with prospective follow-up after anti-tuberculosis treatment, *Gastrointest. Endosc.* 65 (5) (2007) AB253.
- [10] Y.R. Sharma, et al., Abdominal tuberculosis—a study of 25 cases, *Kathmandu Univ. Med. J.* 2 (2) (2004 Apr-Jun) 137–141.
- [11] WHO. http://www.who.int/growthref/wfa_boys_%205_10years_per.pdf?ua=1.
- [12] R. Sharma, Abdominal tuberculosis, *Imag. Sci. Today* (2009) 146.
- [13] S. Shah, et al., Colonoscopic study of 50 patients with colonic tuberculosis, *Gut* 33 (3) (1992) 347–351.
- [14] R.R. Rai, et al., Rectal tuberculosis—a case report, *Indian J. Med. Res.* (1993) 35–37.
- [15] T. Patankar, et al., Isolated rectal tuberculosis masquerading as malignancy, *Bombay Hosp. J.* 51 (02) (2009).
- [16] Rebecca L. Siegel, et al., Cancer statistics, *CA: Canc J. Clin.* 66 (1) (2016) 7–30 (2016).
- [17] B. Nagi, et al., Colorectal tuberculosis, *Eu. Radiol.* 13 (8) (2003) 1907–1912.
- [18] A. Uzunkoy, et al., Diagnosis of abdominal tuberculosis: experience from 11 cases and review of the literature, *World J. Gastroenterol.* 10 (24) (2004) 3647–3649.
- [19] D. Bhasin, et al., Endoscopic balloon dilation of ileal stricture due to tuberculosis, *Endoscopy* 30 (3) (1998).