Case Report

Intestinal obstruction secondary to primary ileocecal tuberculosis: A case report

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ABSTRACT

A 22-year-old Iraqi male presented with a case of intestinal obstruction secondary to primary ileocecal tuberculosis (TB). The presumptive diagnosis of either Crohn's disease or neoplasm was expected. A right hemicolectomy was performed. Histopathology revealed an inflammatory mass of TB origin; a polymerase chain reaction (PCR) confirmed the diagnosis. The patient was treated with standard anti-TB drugs for 6 months. Following the treatment, the systemic symptoms disappeared and the laboratory investigations returned to normal. Follow-up period showed no recurrence of the disease.

Introduction

Tuberculosis (TB) has increasingly become recognized as a serious public health problem worldwide, particularly in developing countries, including Iraq [1]. However, it is often difficult to diagnose intestinal TB preoperatively, especially in resource-poor settings where advanced diagnostic facilities are not available [2,3]. Hence, treatment may be delayed and the patient may present with signs and symptoms of acute abdomen [4]. Abdominal TB can affect the gastrointestinal tract, peritoneum, mesenteric lymph nodes and solid viscera [5]. This study reports an interesting case of intestinal obstruction secondary to primary ileocecal TB. The initial diagnosis of the case was Crohn’s disease or neoplasm. As far as this research is concerned, this is the first reported case from Iraqi-Kurdistan.

Case presentation

A 22-year-old Iraqi male presented with a 7-day history of generalized abdominal pain, which was colicky in nature, associated with nausea, vomiting and absolute constipation. The pain was exacerbated in the last 2 days before admission, which was associated with mild fever. The patient gave a history of abdominal colic occurring over a 12- to 42-month period. The pain would be present for several weeks at a time, but there would be intervals of up to a few months without symptoms. He stated that weight loss had occurred markedly. A physical examination showed a temperature of 37.9 °C, a pulse rate of 110 beats/min, a respiration rate of 27 breaths/ min and a blood pressure of 95/60 mm Hg. The patient's abdomen revealed abdominal distension and generalized tenderness, but the tenderness was more localized on the right...
iliac fossa with decreased bowel sounds. Laboratory test findings showed hemoglobin (Hb) of 11.1 g/dl, Erythrocyte sedimentation rate (ESR) of 45 mm/hour, C-reactive protein (CRP) of 64 U/L and WBC of $12 \times 10^6$. Liver and kidney function tests were normal. An ultrasound scan of the abdomen showed a thickened bowel in the region of the terminal ileum and cecum with minor fluid collection at the right iliac fossa. Chest X-ray was normal. A plain X-ray of the abdomen in erect position revealed multiple air fluid levels suggestive of small bowel obstruction (Fig. 1). Because of continuing pain with generalized abdominal tenderness, particularly at the right iliac fossa and other features suggestive of acute intestinal obstruction, an urgent laparotomy was performed. An inflammatory mass with multiple enlarged lymph nodes in the mesentery of the mesoappendix was involving the cecal inflammatory mass with multiple enlarged lymph nodes in the mesentery of the mesoappendix was involving the cecal obstruction. The ileum and ascending colon were normal. Histopathologic evaluation of the specimen showed multiple granuloma in all levels of the bowel wall and in the mesenteric glands. In some areas they coalesced to give caseation, and acid fast bacilli (AFB) were not seen on Ziehl Neelsen (ZN) staining in lymph nodes and bowel wall. Thereafter, a polymerase chain reaction (PCR) analysis for Mycobacterium tuberculosis (MTB) was reported to be positive from biopsy tissue. From the clinical, laboratory, radiological and histopathological findings, he was diagnosed as having primary intestinal TB. The patient was treated with a quadruple therapy for 2 months, followed by Isoniazid (INH) and Rifampicin (RMP) combination therapy for a further 4 months. Following the treatment, the systemic symptoms disappeared and the ESR and CRP returned to normal, and the patient gained 10 kg in weight. The follow-up period showed no recurrence of the disease.

Discussion

Although intestinal TB is not an uncommon form of extrapulmonary TB, ileocecal TB remains a diagnostic challenge and often ends in the surgical wards as acute abdomen. A historically proven intestinal TB has been reported from Iraq [6]; however, as far as this study is concerned, this is the first report describing a case of intestinal obstruction secondary to primary ileocolic TB proven by PCR in an Iraqi-Kurdistan patient. Although abdominal TB was declining in the past [6], its incidence is expected to be increasing in Iraq owing to poor performance of the National TB Programme [7]. The ileocolic area is the most common site for abdominal TB, which may present with intestinal obstruction [8]. With regard to pathological patterns of intestinal TB, there are three forms: ulcerative, ulcerohypertrophic and hypertrophic. The hypertrophic is the less frequent form that may resemble a tumor and may present as intestinal obstruction [9]. Intestinal TB, like other forms of TB, is predominantly a disease of young adults and there is a slight female predominance in the literature [10,11]. The patients usually present with abdominal pain, weight loss, fever, anorexia, change in bowel habits, nausea and vomiting [9]. Similarly, the subject patient of this study was a young adult who presented with typical clinical presentations of abdominal TB; however, in contrast to the literature, he was male. The reason behind this gender difference can be explained by the fact that women are mostly housewives who are less likely to be exposed to the bacteria. The patient presented at the emergency ward of the hospital with signs and symptoms of acute abdomen. It has been shown that intestinal TB may present as acute abdomen because of bowel obstruction, perforation or a mass in the right iliac fossa [12]. In developing countries like Iraq, the diagnosis of intestinal TB in the early stages is usually difficult because of diverse clinical presentations that may mimic various diseases, for example, Crohn’s disease and neoplasms. Additional reasons for the misdiagnosis are related to inadequate facilities for efficient diagnosis of the condition. For these reasons, in many cases the diagnosis is made at the time of exploration. By performing an exploratory laparotomy, no differentiation could be made between Crohn’s disease, intestinal TB and neoplasm. It has been shown that intestinal TB cannot be differentiated from inflammatory bowel disease either radiologically or obviously [13]. Therefore, a sample
should always be taken for culture for AFB at operation because macroscopically the two conditions cannot be separated reliably. In this case, the diagnosis was made histopathologically by demonstrating caseating granulomas. Although acid-fast staining was negative, confirmatory PCR was positive for MTB in the biopsy tissue specimen. It has been reported in the literature that a definite diagnosis of abdominal TB is made by identification of MTB from tissue and/or by demonstrating caseating granulomas at histopathology [14]. In the current case, AFB of tissue specimen was negative; this is because of the low sensitivity and specificity of the technique [15]. The preferred conventional culture method was not available, and furthermore it is a time-consuming method. It is well documented that the molecular-based method of diagnosing clinical specimens obtained through laparotomy is more sensitive than conventional culturing method. It is well documented that the molecular-based method of diagnosing clinical specimens obtained through laparotomy is more sensitive than conventional culture and ZN staining in the diagnosis of abdominal TB [16].

Hence, the diagnosis of the case was confirmed through a positive PCR report. It is estimated that only one out of three cases of lower gastrointestinal TB gives a positive identification of the mycobacterium by culture, and two out of three cases by PCR [17,18]. In the present case, based on the clinical and laboratory findings, intestinal TB at the ileocecal region was diagnosed. The patient was treated with a standard therapy of anti-TB drugs for a period of 6 months. Four drugs (INH, RMP, Pyrazinamide and Ethambutol) were given for the first 2 months and two drugs (INH and RMP) for the next 4 months. The patient was strictly observed for the first few months after treatment, and no recurrence was noted within that period.

In conclusion, a case of ileocecal TB was reported and effectively treated with anti-TB drugs. It is important to consider TB in the differential diagnosis of acute abdomen, particularly in high TB-burden areas.

REFERENCES


