Editorial

Abdominal Tuberculosis

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Though the primary site of tuberculosis is lung, it can virtually affect any organ of the body. The gastrointestinal tract is the sixth most frequent site of extrapulmonary involvement. Apart from the gut, the peritoneum, abdominal lymph nodes, and more rarely, the solid organs liver, pancreas, and spleen may be infected with tuberculosis. The most common site of involvement of the gastrointestinal tuberculosis is the ileocecal region followed by ascending colon, jejunum, appendix, duodenum, stomach, esophagus, sigmoid colon, and rectum.

In the study "clinical, imaging, and endoscopic profile of patients with abdominal tuberculosis" by Shafiq et al,[1] the author has reported a single center experience of 76 cases of abdominal tuberculosis over the study period of 3 years. This is consistent with the statistics that India has the world's largest number of tuberculosis cases which is around 26% of the world TB cases, followed by China and South Africa.[2] Most of the findings in this study are consistent with the earlier reports but for slight male preponderance.

The incidence of TB in developed countries too is on the rise due to the increasing prevalence of immunocompromised individuals mainly due to the pandemic of acquired immunodeficiency syndrome (AIDS) and changed demography with growing immigrant's population.[3] The burden of extrapulmonary tuberculosis is estimated to range from 15 to 20% of all TB cases in HIV-negative patients, while in HIV-positive subjects, it accounts for 40 to 50% of new TB cases.[4]

Extrapulmonary TB is not so commonly seen as pulmonary TB and often eludes early diagnosis until it is late. The late diagnosis is due to its nonspecific clinical presentation. The symptoms of vague pain in abdomen, diarrhea, and occasional fever are too nonspecific to suggest the diagnosis unless the treating physician has a high degree of suspicion. Most often such diagnosis comes to mind when the patient presents either with features of malabsorption or complications of obstruction in the presence of stricture causing narrowing of the lumen of ileum.

The patient symptoms of TB of the gastrointestinal (GI) tract vary depending on the organ involved. A patient may rarely present with dysphagia, odynophagia, and a mid-esophageal ulcer due to esophageal tuberculosis, dyspepsia and gastric outlet obstruction due to gastroduodenal tuberculosis, lower abdominal pain and hematochezia due to colonic tuberculosis, and annular rectal stricture and multiple perianal fistulae due to rectal and anal involvement.

The Diagnostic Conundrum of Crohn's Disease and Intestinal TB

Differentiating intestinal tuberculosis from Crohn's disease (CD)[5] is an important clinical challenge of considerable therapeutic significance. The presence of either an active or old pulmonary lesion suggestive of tuberculosis may be helpful in such situation. In this study, 25 patients (32.8%) showed concomitant pulmonary findings, while previous studies have documented approximately 15 to 25% of cases with abdominal TB to have concomitant pulmonary findings. The presence of ascites offers another avenue for diagnosing tuberculosis. In this study, 30 patients with ascites showed high protein, low serum ascites albumin gradient (SAAG) ascites, adenosine deaminase (ADA) was elevated in 23 patients (> 33 U/L), two patients showed AFB on smear, and none of them grew AFB on culture.

Both tuberculosis (TB) of the gastrointestinal tract and Crohn's disease (CD) are chronic granulomatous disorders with similarities in their clinical presentation and pathology.[4] The problem is of greatest magnitude in countries like India where tuberculosis continues to be endemic and on the other hand, the incidence of CD is on the rise. Abnormalities in differential leukocyte count, anemia, raised ESR and C-reactive protein are noticeable in the active phase of both intestinal TB and CD. The ELISA against anti-*Saccharomyces cerevisiae* antibody (ASCA) in serum is not specific either.

The Xpert MTB/RIF assay[6] has low sensitivity but high specificity for intestinal TB, and may be helpful in endemic tuberculosis areas, when clinicians are faced with difficulty differentiating TB and CD. Based on the Xpert MTB/RIF assay, the prevalence of intestinal multidrug-resistant TB (MDR-TB) is low in the Indian population. Mycobacteria growth indicator tube (MGIT) culture is now the standard of care as its yield is superior to that of the traditional Lowenstein–Jensen

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medium. Increasing the number of colonoscopic biopsy samples for mycobacteria growth indicator tube (MGIT) culture can increase the yield.

Culture and histopathology are complementary. Although culture gives a definitive diagnosis, to get the result usually takes weeks. Even then a positive diagnosis of intestinal TB may remain elusive in a significant proportion of patients. Scoring systems with specificity of 90 have been developed but their utility in routine practice is yet to be established. Similarly, the value of polymerase chain reaction (PCR) in arriving at the diagnosis is uncertain.

Gene Xpert in a molecular test for TB, which diagnoses TB by detecting the presence of TB bacteria, as well as testing for resistance to the drug rifampicin. In India, this test is known as the cartridge based nucleic acid amplification test (CB-NAAT). It has been found to be useful in the diagnosis of pulmonary TB and its utility in intestinal TB needs to be looked at.

Useful modalities for investigating a suspected case include a contrast-enhanced computed tomography study (CECT) of abdomen, ultrasonography, and colonoscopy. Ascitic fluid examination reveals straw colored fluid with high protein, SAAG less than 1.1 g/dL, predominantly lymphocytic cells, and ADA levels above 36 U/L. Sometimes diagnostic laparoscopy is a very useful investigation in doubtful cases.

Despite the best efforts and investigations, the diagnosis of abdominal TB can still be elusive. In such situations, taking into consideration the symptoms and overall clinical picture, the clinician may proceed to start antituberculosis treatment (ATT) empirically and the patient is closely followed. If the patient shows improvement of symptoms and starts gaining weight, it is obvious the treatment is on the right track. In this study, five patients were started on empiric antitubercular therapy (ATT) as there was diagnostic dilemma due to discordance in clinical and laboratory findings, and fortunately all five patients exhibited a rapid response to ATT.

Treatment

Abdominal TB generally responds to medical treatment alone and surgery is usually reserved for those cases with complications like obstruction due to stricture, abscess, or where there is a fistula. Early diagnosis and treatment can prevent unnecessary surgical intervention. Even in cases of tuberculous strictures,[7] medical management with antituberculous drugs will result in significant resolution of symptoms in most of the patients. Endoscopic balloon dilation offers an alternative to the surgical management of GI stricture

Antituberculous therapy is usually for 6 months, which includes initial 2 months of therapy with isoniazid (INH), rifampicin (RMP), pyrazinamide (PZA), and ethambutol (EMB) followed by a further 4 months course with RMP and INH. Cochrane researchers examined the available evidence up to the September 2, 2016 and concluded that 6-month regimens are probably as good as 9-month regimens in terms of numbers of people cured but more studies are needed for making confident conclusions.[8]

Drug toxicity is a point of concern which requires a close follow up. In this study, eight patients (10.5%) developed hepatotoxicity due to ATT, seven out of whom tolerated either sequential reinitiation of ATT or modified ATT. One patient had to be referred to a tertiary liver center due to development of acute liver failure (ALF). Drug resistance is increasingly common in strains of mycobacterium tuberculosis (MTB) and may contribute to recurrence or persistent disease.

Conflict of Interest

None declared.

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