

A case of abdominal tuberculosis diagnosed by fine needle aspiration cytology (FNAC) of mesenteric lymph node

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Abstract

Background: The modes of presentation of abdominal tuberculosis can be vague resulting in diagnostic dilemma. **Objective:** To report a case of abdominal tuberculosis diagnosed by FNAC of a mesenteric lymphnode. **Case:** A 17-year-old boy presented in General out Patient department complaining of abdominal pain, abdominal distension, and low grade fever, anorexia and weight loss for 2 months. The examination revealed pallor, low body weight, doughing of abdomen and multiple palpable painless, slightly mobile abdominal lymph nodes. The ultrasonography (USG) guided fine needle aspiration cytology (FNAC) of a mesenteric lymphnode showed caseating necrosis suggestive of tuberculosis. The erythrocytes sedimentation rate (ESR) was raised. **Conclusion:** The abdominal tuberculosis can present with abdominal pain and abdominal distension associated with low grade fever, anorexia and weight loss. The diagnosis of abdominal tuberculosis can be confirmed by FNAC of the lymphnodes.

Keywords: Abdominal tuberculosis, FNAC, vague symptoms

Introduction

Abdominal tuberculosis includes tuberculosis of the gastrointestinal tract, peritoneum, omentum, mesenteric lymph nodes, and other solid intra-abdominal organs like liver, spleen, and pancreas.¹ It is the sixth most frequent site of extra pulmonary

involvement.² The diagnosis of abdominal tuberculosis can be difficult due to its varied presentations and vague non-specific symptoms. Abdominal tuberculosis is predominantly a disease of young adults. Therefore, it is considered a major public health problem in the developing world. It can occur as a primary disease or develop secondary to pulmonary tuberculosis. It carries a significant morbidity and mortality.^{3,}

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Case description

A 17-year-old boy presented in General Out-Patient Department with abdominal pain and distension associated with anorexia, weight loss and low grade fever for 2 months. The findings of examination were: pulse rate 80/min, temperature 98° F and body weight 42 kilogram. The abdomen was found to be soft and doughy feeling with multiple small nodular painless and slight mobile lymphnodes. There was a mild tenderness all over the abdomen.

The hematological investigations showed the following features: total leucocytes count 8700/mm³, neutrophil 58%, lymphocytes 30%, monocytes 10% and eosinophil 2%, platelets count 390000/mm³. The chest X-ray was normal. The ESR was 57 mm in 1st hour (Wintrobe method). The hemoglobin was 9.6 gm/dl. The Mantoux test was positive with indurations of 16 mm. The USG guided FNAC from a mesenteric lymph node showed foci of caseous necrosis and necrotic debris against the lymphnode background suggestive of necrotizing lymphadenitis. The sputum for acid fast bacilli on three subsequent days was negative.

The ultrasonography of abdomen revealed multiple enlarged mesenteric lymph nodes, some showing necrotic areas in the periumbilical region (largest = 37.3 mm) with moderate ascites. The patient was commenced on anti tubercular treatment

(ATT) category -1 according to the Nepal National Guidelines. The initial regime was rifampicin 450mg, ethambutol 800 mg, pyrazinamide 1500 mg and INH 300 mg daily for 2 months followed by the maintenance phase with 2 drugs (rifampicin and INH) for another 4 months. Because the signs and symptoms did not completely disappear at the end of six months, the treatment with rifampicin and INH was extended for another three months. The patient was followed up in 2 weeks, 4 weeks, 4 months, six months and finally at 9 months. At the end of 9 months, the treatment was stopped when the patient was found symptoms free and the general condition had improved. There was no adverse effect of the ATT.

Discussion

The tuberculosis primarily affects lungs but it can affect any of the organ systems, like intestine, meninges, bones and joints, lymph nodes, skin and other tissues of the body.⁶ *M Bovis/*s widely recognized as the causal agent of primary intestinal tuberculosis.⁷ The tubercle bacilli may reach the gastrointestinal tract via direct contact through the ingested food, swallowing infected sputum, haematogenous route, or may spread from infected adjacent lymph nodes and viscera such as fallopian tubes.⁸ The modes of infection of the gastro intestine includes hematogenous spread from a primary lung focus that reactivates later or miliary

tuberculosis, spread via lymphatics from infected nodes, ingestion of bacilli either from the sputum or from infected sources such as milk products or by direct spread from adjacent organs. Involvement of the abdominal lymph nodes and the peritoneum may occur without other organ involvement. The most common site for abdominal tuberculosis is the ileocecal area. Infection often results in granuloma formation, caseation, mucosal ulceration, fibrosis, and scarring.⁹ The clinical features of abdominal tuberculosis is usually non-specific and therefore often results in diagnostic delay and hence more chance of the development of complications. A previous study from Nepal reported the common symptoms to be abdominal pain 88%, anorexia 40%, vomiting 36%, diarrhea or constipation 52% and weight loss 52%.¹⁰ Laboratory tests were suggested to have only limited value in the diagnosis of abdominal tuberculosis. Elevated ESR is seen in majority of the cases but may be normal in some histologically proven cases of abdominal tuberculosis.

Most of the guidelines on the treatment of tuberculosis suggest that 6 months treatment is sufficient for extra pulmonary tuberculosis except for bone tuberculosis and tubercular meningitis. In a randomized controlled trial, Balasubramaniam et al reported no difference in success rate of 6 months (99%) vs 12 months 94% anti tubercular drugs

(conventional strategy) in the treatment of abdominal tuberculosis. The management of abdominal tuberculosis requires conventional anti-tubercular treatment for at least 6 months. The treatment includes initial 2 months of Rifampicin, INH, Pyrazinamide and Ethambutol followed by additional 4 months INH and Rifampicin. However, in this case study it was found that a good result was achieved in 9 months of treatment and there was no recurrence of symptoms till the last follow up.

Conclusion

The abdominal tuberculosis should be suspected in a young person presenting with vague abdominal symptoms. It can be diagnosed by FNAC of mesenteric lymphnodes. Early diagnosis and treatment with anti tubercular treatment carries a good prognosis.

References

1. Tewari M, Sahoo SP, Shukla HS. Abdominal tuberculosis. In: Sharma SK, editor. Tuberculosis. 2nd Ed. New Delhi: Jaypee Brothers; 2009; 275–93.
2. Sharma AK, Agarwal LD, Sharma CS, Sarin YK. Abdominal tuberculosis in children: Experience over a decade. Indian Paediatr 1993; 30:
3. Kumar S, Pandey HI, Saggiu P. Abdominal Tuberculosis. In: Taylor I, Johnson CD, editors. Recent advances

- in surgery. 28 ed. London: Royal Society of Medicine Press; 2008; 47-58.
4. WHO. Global tuberculosis control 2012. World Health Organization. (Online). Available from URL:http://www.who.int/tb/publications/global_report/en/index.html.
 5. Wadhwa N, Agarwal S, Mishra K. Reappraisal of abdominal tuberculosis. J Indian Med Assoc 2004; 102: 31-2.
 6. Young J, O'Connor ME. Risk factors associated with latent tuberculosis infection in Mexican American children. Pediatrics. 2005; 115(6):e647–e653.
 7. Kumar S, Pandey HI, Saggiu P. Abdominal Tuberculosis. In: Taylor I, Johnson CD, editors. Recent advances in surgery. 28 ed. London: Royal Society of Medicine Press; 2008; 47-58.
 8. Marshall JB. Tuberculosis of the gastrointestinal tract and peritoneum. Am J Gastroenterology 1993; 88:989-99.
 9. Lazarus AA, Thilagar B. Abdominal tuberculosis. Dis Mon 2007; 53:32-8.
 10. Innes DB. Abdominal tuberculosis in Kath, Nepal. N Z Med J 1976;10; 84 (575):353-6.