Case Repoart

Is Empirical Anti-tuberculous Treatment Justified Even in the Second Decade of the 21st Century?

Gandrapu Vijetha, Bathula Bhargav Prasad, Duvvuri Bhima Shankar and Sreenivas Rao Challa

Departments of General Surgery and Chest and TB, Konaseema Institute of Medical Sciences and Research Foundation, East Godavari District (Andhra Pradesh), India

Abstract

Tuberculosis (TB) is a highly prevalent disease in developing countries where there is poor sanitation, over-crowding and malnutrition. It can affect various organ systems in our body including the central nervous system, respiratory, genito-urinary tract and bone, though respiratory involvement is by far the commonest. Though diagnostic modalities for TB are well defined, empirical therapy without a confirmed diagnosis continues to be used in specific clinical situations. We report two cases with suspected TB who served empirical treatment.

[Indian J Chest Dis Allied Sci 2016;58:127-129]

Key words: Tuberculosis, Respiratory, Lesion, Health.

Introduction

Tuberculosis (TB) is one of the earliest diseases known to mankind. In the 19th and 20th Centuries, TB was recognised as a common disease.[1] Even after the advent of cheap and effective drug therapy, the disease continues to be a major problem worldwide.

It can present as pulmonary and extra-pulmonary forms. Pulmonary forms are easy to diagnose than extra-pulmonary forms. However, in certain situations pulmonary TB cannot be confirmed, posing a clinical dilemma. Extra-pulmonary forms include central nervous system, gastro-intestinal tract, genito-urinary tract and bone. These constitute approximately one-sixth of all cases. Abdomen is the commonest extra-pulmonary site of involvement,[2] apart from isolated pleural disease.

In the areas where the disease is endemic, a confirmed diagnosis is made only in one-half of the cases at the initial presentation.[3] Our particular concern is the role of empirical therapy in clinically suspected cases having an unconfirmed diagnosis of TB, as there is a chance of treatment abuse and subjecting the patient to unnecessary side effects, development of drug resistance and wrong diagnosis and delay in diagnosing the critical condition.[4] We report two cases to highlight this clinical dilemma.

Case Reports

Case - 1

A 17-year-old male presented to the surgery out-patient clinic with complaints of generalised pain over the abdomen for the past four years. The pain was diffuse, colicky in nature, non-radiating and there were no aggravating or relieving factors. He had frequent vomiting for the same duration with increase in frequency since the last two years. It was projectile, not foul smelling contained food particles and was aggravated during intake of food. There was no history of heamatemesis and melaena. He also complained of high grade fever, associated with chills and rigor on and off during the period. There was no evening rise of temperature. There was also a history of loose stools present for the last two years which were mucoid in consistency, not foul smelling and not associated with bleeding per rectum.

He had been prescribed anti-tuberculosis treatment (ATT) for six months (Category I) under

[Received: April 27, 2015; accepted: August 3, 2015]

Correspondence and reprint requests: Dr Gandrapu Vijetha, Room No. 301, PG Girls Hostel, Konaseema Institute of Medical Sciences and Research Foundation, NH 216, Amalapuram, East Godavari District-533 201 (Andhra Pradesh), India; E-mail: vijethagandrapu@gmail.com

Revised National Tuberculosis Programme (RNTCP), in a primary health-care centre on the basis of erythrocyte sedimentation rate (ESR) and abdominal ultrasound. He has also received oral metronidazole from a private hospital elsewhere. There was no relief in symptoms. He again received ATT after a gap of one year, this time category II for nine months, along with short-term course of oral prednisolone 10mg twice daily for 10 days. The symptoms subsided for five months and relapsed with similar complaints after stopping.

He was found to be emaciated and anaemic. Abdominal and other systems examination was not remarkable. Blood counts, liver function and chest radiograph did not reveal any abnormality. ESR was 62mm in the first hour.

Contrast enhanced computerised tomography of abdomen and pelvis showed circumferential mural thickening of the ascending colon with maximum thickness approximately 1.8mm just proximal to the hepatic flexure causing a short segment near-complete obliteration of the lumen, raising the possibility of the tubercular or other inflammatory pathology. There was a small sized, hypo-dense, non-enhancing area in segment VI of the right lobe of liver abutting the hepatic flexure. Colonoscopy showed ulcero-proliferative growth with narrowing in the transverse colon. A biopsy taken yielded chronic inflammatory infiltrate of lamina propria with normal mucosa glands.

Exploratory laparotomy was carried out and right hemicolectomy with ileo-colic anastomosis was done. The intra-operative findings were a pulled-up caecum adherent to liver bed, thickened caecum and ascending colon with dilated terminal ileum.

Histopathological examination showed granulomas with multi-nucleated giant cells in the intestinal wall. Sections from all lymph nodes revealed features of reactive hyperplasia, suggestive of an inflammatory pathology without any definite evidence of TB.

Tissue smears, culture and PCR (polymerase chain reaction) were negative for acid-fast bacilli (AFB) and *Mycobacterium tuberculosis* or mycobacteria other than TB. We could not find any justification for treatment for TB. The patient was, therefore, kept under follow-up.

Case - 2

A 75-year-old male presented with complaints of cough, breathlessness for the past five months. Chest radiograph showed a small cavity at the right apex and a large cavity in the right lower lobe. He was diagnosed to have cavitary pulmonary TB and ATT was started. There was no relief in symptoms after two months of treatment. After he started having streaky haemoptysis, he reported to our hospital. The chest radiograph now showed a large cavity with fluid level in the right lower lobe, a small cavity at the right apex with a small right-sided pleural effusion (see Figure). Three sputum smears on consecutive days did not reveal AFB.

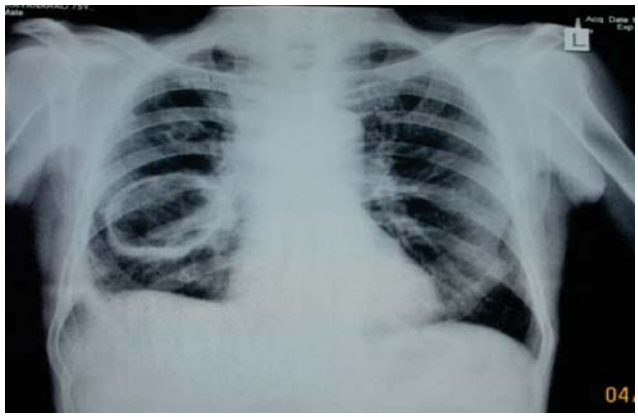

Figure. Chest radiograph (postero-anterior view) showing carcinoma lung resembling tuberculosis.

Fibreoptic bronchoscopy revealed an intra-bronchial growth in the right main bronchus, 2cm distal to the carina and obstructing the lumen. Bronchial aspirate for AFB was negative. Histopathological examination of the biopsy specimen confirmed it to be a well-differentiated squamous cell carcinoma.

A high resolution computed tomography of chest showed rib metastasis in the left thorax. The patient was referred for further management of lung cancer.

Discussion

The case presented here highlights the risks involved in prescribing anti-tuberculosis therapy without making all efforts to establish the correct diagnosis. The patients were exposed to unnecessary treatment and the diagnosis of the critical condition was delayed.

Tuberculosis continues to be a major health hazard throughout the world.[5] Extra-pulmonary TB presents as a major diagnostic problem, especially in the developing countries where sophisticated medical facilities are scarce. Diagnosis of TB may not be easy, especially in children and its extra-pulmonary forms where clinical specimens are not easily obtained for microbiology and culture. This practice of empirical therapy without confirmed diagnosis is common but should be utilised with great vigilance.

A diagnosis of TB is often made in patients with prolonged febrile illness, unexplained lymph-adenopathy or weight loss, ascites, intestinal obstruction, and pleural effusion and even without extensive diagnostic efforts to rule out diseases simulating TB including other infective illnesses, inflammatory and malignant diseases.

Physicians often give over-importance to certain diagnostic tests like ESR, tuberculin skin test, and serological tests, which have a low sensitivity, specificity, and positive predictive value for TB.

With appropriate clinical evaluation and microbiological, imaging and histopathological tests, there is possibility to make a correct diagnosis of TB in a majority of infected patients. However, in some cases diagnosing TB may be a real challenge. This is especially true for extra-pulmonary forms of TB, which is usually paucibacillary and manifestations are often non-specific.

Invasive tests, such as bronchoscopy/laparoscopy and needle aspiration or biopsy should be used as indicated. The use of PCR in smear-negative patients may increase suspicion, and thus, the diagnostic yield.

It is strongly recommended that, all patients treated empirically for TB should be followed closely for response. In the event of a lack of response, an alternative diagnosis should be sought with all intensive investigations.

References

1. Rangabashyam N. Abdominal tuberculosis. In: Peter J Morris and william C Wood, editors *Oxford Textbook of Surgery*; Vol I. New York: Oxford University Press;1994: pp2484-92.
2. Jackubowski A, Elwood RK, Enarson DA. Clinical features of abdominal tuberculosis. *J lnfect Dis* 1988;158:687–92.
3. Kapoor VK, Sharma LK. Abdominal tuberculosis. *Br J Surg* 1988;75:2–3.
4. Apaydin B, Paksoy M, Bilir M, Zengin K, Saribeyoglu K, Taskin M. Value of diagnostic laparoscopy in tuberculosis peritonitis. *Eur J Surg* 1999;165:158–63.
5. Cook GC. Tuberculosis: certainly not a diagnosis of the past. *Q J Med* 1985;56:519–21.