Original Article

Bronchoscopic evaluation in endobronchial tuberculosis

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Abstract

Endobronchial tuberculosis (EBTB) is defined as tuberculous infection of the tracheobronchial tree with microbial and histopathological evidence. It is seen in 10-40% of patients with active pulmonary tuberculosis. More than 90% of the patients with EBTB have some degree of bronchial stenosis. 10 to 20 % have normal chest radiograph. Therefore, a clear chest radiograph does not exclude the diagnosis of EBTB. Bronchoscopic sampling has been the key to the diagnosis producing more than 90% yield on smear as well as on culture. Bronchoscopy is the gold standard for diagnosis of EBTB. Early diagnosis and prompt treatment, before the development of fibrosis is important to prevent complications of endobronchial tuberculosis, such as bronchostenosis. EBTB is classified into seven subtypes by bronchoscopic findings according to Chung Classification: actively caseating, edematous-hyperemic, fibrostenotic, tumorous,granular, ulcerative, nonspecific bronchitic. The Aim of the Study is to evaluate varied findings of Bronchoscopic presentations of Endobronchial Tuberculosis.

Key Word: Bronchoscopic evaluation, endobronchial tuberculosis.

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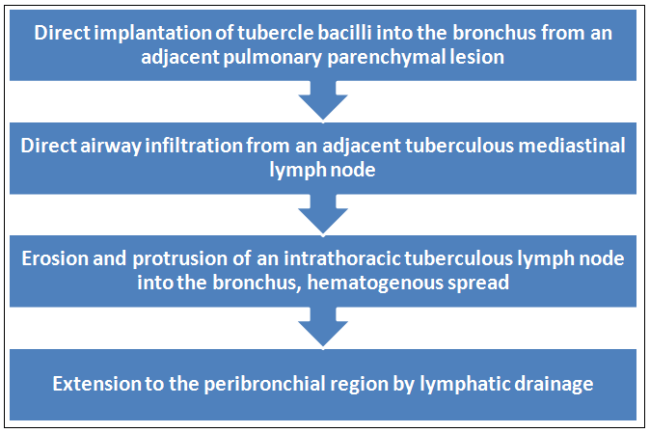
INTRODUCTION

Pulmonary tuberculosis is one of the major health problems worldwide. In spite of much progress in diagnosis and therapy, this problem still remains. Moreover, there has been a resurgence of pulmonary tuberculosis recently, which is related to the HIV epidemic, multidrug-resistant strains, poverty, immigration, and shortness in the prevention and treatment system. About 10% to 40% of patients with active pulmonary tuberculosis had EBTB.It has been defined as tuberculous infection of the tracheobronchial tree with microbial and histopathological evidence or a complication of progressive primary tuberculosis. EBTB continues to be a health problem because of the following:[1] Its diagnosis is frequently delayed because the decreased incidence itself diminishes the suspicion of tuberculosis;[2] bronchostenosis may develop as a serious complication despite efficacious antituberculosis chemotherapy; and[3] it is often misdiagnosed as bronchial asthma or lung cancer.

Pathogenesis of EBTB[4,5,6,7,8]



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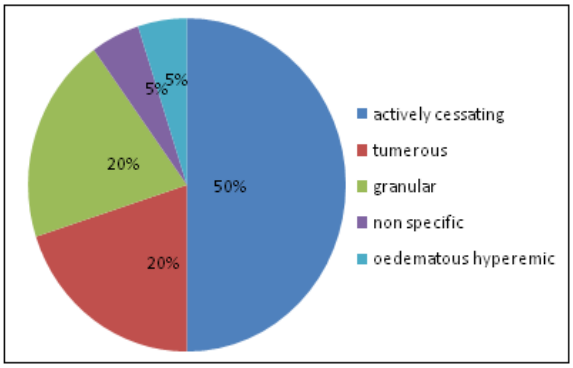
MATERIALS AND METHODS

The study was conducted in Pulmonary medicine Department MGM Medical College and Hospital Aurangabad, Maharashtra from January 2015 to march 2016,of age above 18 years with constitutional symptoms like fever, cough, loss of appetite and weight. All the patients who were Sputum Negative were subjected to Bronchoscopy.

RESULTS

Analysing the data from 20 patients, EBTB were classified into subtypes by initial bronchoscopic findings, the most common bronchoscopic classification was Actively Cessating were found in 10 patients (50%), Tumerous were found in 4 patients (20%), Granular in 4 patients (20%), non specific in 1 patient (5%),Oedematous Hyperemic in 1 patient (5%). Lesions were totally recovered in all the patients with treated with standard anti-tuberculous treatment.



DISCUSSION

EBTB contains rather high amounts of tuberculosis bacilli. Early diagnosis and treatment is important for prevention of the spread of tuberculosis and complications like cicatricial bronchostenosis due to endobronchial involvement.[10] In this study actively caseous type was reported to be most common . In recent studies it was reported that most common bronchoscopic finding was edematous-hyperemic type.[11,12] This is the most common type of bronchoscopic finding in middle lobe syndrome.[13] It is also reported that while active caseous type recovers almost completely, edematous or active caseous + edematous type changes to fibrostenotic type in more than 60% of cases.[14] Four of the subtypes—actively caseating, edematous-hyperemic, fibrostenotic, and tumorous EBTB—show varying degrees of luminal narrowing of the bronchus, while the other three subtypes—granular, ulcerative, and nonspecific bronchitic EBTB—do not.[14] Similarly, it is reported in a study that early stage exudative, granular and ulcerative lesions recovered without sequel; caseous and tumorous lesions of advanced disease might lead complications such as bronchostenosis causing bronchectasia.[15] A study conducted by Um SW *et al.* revealed that factors related to development of bronchial stenosis were age over 45 years, pure or combined fibrostenotic subtype and symptoms lasting more than 90 days prior treatment.[16] In our study most common lesions observed bronchoscopically were active caseous lesions. These were followed by granular, tumorous, non specific and oedematous lesions with decreasing frequencies. In this study all the Lesions were totally recovered in all the patients treated with standard anti-tuberculous treatment.

CONCLUSION

The most common EBTB was found to be actively cessating type. Bronchoscopy should be performed as soon as possible in suspected patients, especially when patients present the relatively long duration of symptoms . Therefore, the bronchoscopic approach is benefitial, not only for the prompt diagnosis of EBTB, but also for the prevention of further bronchostenosis.

REFERENCES

1. Hoheisel G, Chan BKM, Chan CHS, Chan KS, Teschler H, Costabel U. Endobronchial tuberculosis: diagnostic features and therapeutic outcome. Respiratory Medicine. 1994; 88: 593-597.
2. Indian J Chest Dis Allied Sci 2003; 45 : 247-256
3. Chung HS, Lee JH, Han SK, *et al*. Classification of endobronchial tuberculosis by the bronchoscopic features. Tuberc Respir Dis 1991; 38:108–115 (in Korean)
4. Matthews JI, Matarese SL, Carpenter JL. Endobronchial tuberculosis simulating lung cancer. Chest 1984; 86:642– 644
5. Smith LS, Schillaci RF, Sarlin RF. Endobronchial tuberculosis: serial fiberoptic bronchoscopy and natural history. Chest 1987; 91:644–647 11 Judson MA, Sahn SA. End
6. 16 Myerson MC. Tuberculosis of the trachea and bronchus. Springfield, IL: Charles C. Thomas, 1944; 250–275
7. Lee JH, Park SS, Lee DH, *et al*. Endobronchial tuberculosis: clinical and bronchoscopic features in 121 cases. Chest 1992; 102:990–994
8. Kim YH, Kim HT, Lee KS, *et al*. Serial fiberoptic bronchoscopic observations of endobronchial tuberculosis before and early after antituberculosis chemotherapy. Chest 1993; 103: 673–677
9. Chan HS, Pang JA. Effect of corticosteroids on deterioration of endobronchial tuberculosis during chemotherapy. Chest 1989; 96:1195–1196
10. Yanardag H, Tetikkurt C, Tetikkurt S, *et al*. Computed tomography and bronchoscopy in endobronchial tuberculosis. Can Respir J 2003;10:445-8
11. An JY, Lee JE, Park HW, *et al*. Clinical and bronchoscopic features in endobronchial tuberculosis. Tuberc Respir Dis 2006;60:532-9
12. Morrone N, Abe NS. Bronchoscopic findings in patients with pulmonary tuberculosis. J Broncho12007;14:15-8

13. Kim HC, Kim HS, Lee SJ, *et al*. Endobronchial tuberculosis presenting as right middle lobe syndrome: clinical characteristics and bronchoscopic findings in 22 cases. Yonsei Med J 2008;49:615-9
14. Chung HS, Lee JH. Bronchoscopic assessment of the evolution of endobronchial tuberculosis. Chest2000;117:385-92
15. Um SW, Yoon YS, Lee SM, *et al*. Predictors of persistent airway stenosis in patients with endobronchial tuberculosis. Int J Tuberc Lung Dis 2008;12:57-62
16. Yanardag H, Tetikkurt C, Tetikkurt S, *et al*. Computed tomography and bronchoscopy in endobronchial tuberculosis. Can Respir J 2003;10:445-8
17. Swallow CE, McAdams HP, Colon E. Tuberculosis manifested by laryngeal mass on CT scans. Am J Roentgenol 1994; 163 : 179-80.

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