

# Bronchial aspirate versus induced sputum in diagnosis of tuberculosis - case report

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## Introduction

Microbiology sampling of sputum smear is the most usual procedure for the diagnosis of the tuberculosis. However, sputum sampling is only 70% accurate, there still around 30% of patients who remain negative.

## Case presentation

We present case report of 68 years old female patient with recurrent episodes of malaise, weakness and constant sub febrile fever. X rays showed infiltrative change in the right upper lobe, not clearly delineated from the surroundings, with mild fibrotic lines towards right hilus. Inflammatory markers such as CRP, fibrinogen, erythrocyte sedimentation rate and leukocytes were increased. At this point sputum smears for standard TBC findings (microscopy, Xpert, culture) were negative. Patient had two cycles of antibiotic therapy, started with amoxicillin + clavulonide acid, then macrolide, and in between Oseltamivir for five days. Two weeks after finishing the treatment, symptoms relapsed, worsened with respiratory failure. Patient was hospitalized, CT scan was performed showing same previously described infiltrative lesion of the right upper lobe with fibrotic lining towards right hillus, nodular change in the right middle lobe and ground glass opacification in apical and middle lobes of the right lung. Inflammatory markers highly increased, standard microbiology for sputum, nasal and pharyngeal smear remained negative after incubation. Treatment with third generation cephalosporin was parenterally administered, but without resolution of clinical state. Bronchoscopy was performed, no endoscopic finding in both bronchial branches, bronchial aspirate was taken and it was positive for all standard TBC findings. Patient had been submitted to TBC clinic, and after treatment per TBC protocol there was resolution in symptoms and clinical findings.

## Conclusion

Bronchoscopy is commonly used for investigating patients with clinical or radiological suspicion of tuberculosis who were unable to produce sputum or with negative sputum smear microscopy results. Bronchoscopy is a reliable method for the diagnosis of pulmonary tuberculosis, with low complication rates. The combination of TBB and BAL increases the sensitivity of the method and facilitates the differential diagnosis with other diseases.

**Key words:** tuberculosis, microbiology, bronchoscopy

