

## **Bronchoscopy and Genexpert in the Diagnosis of Pulmonary Tuberculosis in the Indian Private Health Sector: A Short Case Series**

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**Abstract :** Pulmonary tuberculosis is highly prevalent in the Indian subcontinent. Most cases of pulmonary tuberculosis are diagnosed with sputum examinations and the vast majority of these are undertaken by the government run establishments. However, mycobacterial cultures are not routinely done, unless drug resistance is detected based on clinical response. Modern diagnostic tests like bronchoscopy and Genexpert are not routinely employed in the government institutions for the diagnosis of pulmonary tuberculosis, but have been accepted widely by good private institutions. The utility of these investigations in the private sector is not yet well recognized. This retrospective study aims to assess the usefulness of bronchoscopy and Genexpert in the diagnosis of pulmonary tuberculosis in quaternary care private hospital in India. 30 patients with respiratory symptoms raising the possibility of tuberculosis based on clinical and radiological features, but without any significant sputum production, were subject to bronchoscopy and BAL samples taken for microbiological studies, including Genexpert. 6 out of the 30 patients were found to be Genexpert positive and none of them showed Rifampicin resistance. All the 6 cases had upper zone predominant disease. One of the 6 cases of tuberculosis had another co-existent bacterial infection according to the routine culture studies. 6 other cases were proven to be due to other bacterial infections alone, 2 had a malignant diagnosis and the remaining cases were thought to be non-infective pathologies. The Genexpert results were made available within 48 hours in the 6 positive cases. All of them were commenced on standard anti-tuberculous regimen with excellent clinical response. The other infective cases were also managed successfully based on the drug susceptibilities. The study has shown the usefulness of these investigations as early intervention enabled diagnosis facilitating treatment and prevention of any clinical deterioration. The study lends support to early bronchoscopy and Genexpert testing in suspected cases of pulmonary tuberculosis without significant sputum production, in a high prevalence country which normally relies on sputum examination for the diagnosis of pulmonary tuberculosis.

**Keywords :** pulmonary, tuberculosis, bronchoscopy, genexpert

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