

# A STUDY ON NON CULTURE BASED TECHNIQUES IN DIAGNOSIS OF TUBERCULOUS LYMPHADENITIS

## ABSTRACT

**Introduction:** Tuberculous lymphadenitis, the most common form of extrapulmonary tuberculosis constituting 15-20% of all cases of tuberculosis. Control of tuberculosis has become a global challenge due to emergence of MDR and XDR tuberculosis. Delay in the diagnosis and treatment increases the severity of disease and is associated with higher risk of mortality and morbidity more so in HIV infected patients.

**Aim:** To study the epidemiology and to analyse non-culture methods in diagnosing tuberculous lymphadenitis which gives earlier result with good sensitivity and specificity.

**Material and Methods:** This prospective study was conducted in the department of microbiology, Coimbatore Medical College and Hospital, Coimbatore for a period of one year from June 2017 to May 2018. Fine needle aspirates from 64 patients with suspected tuberculous lymphadenitis were subjected to AFB smear study, cytological evaluation and molecular methods – RT PCR and GeneXpert.

**Results:** Out of 64 samples, 42 samples were subjected to molecular methods due to lack of adequate sample. When compared with PCR method, AFB smear study showed 66.67% sensitivity and 78.57% specificity. When compared with GeneXpert, AFB smear study showed 36.36% sensitivity and 100% specificity. When compared with PCR method, cytology showed 33.3% sensitivity and 71.43% specificity. When compared with GeneXpert, cytology showed 18.18% sensitivity, 55.55% specificity. AFB smear study is significantly associated with PCR ( $p < 0.03$ ) and GeneXpert ( $p < 0.043$ ) and found to be statistically significant.

**Conclusion:** Earlier detection helps in early appropriate treatment which is the cornerstone in curtailing its spread. In case of extrapulmonary tuberculosis each nonculture method contributes and increases overall sensitivity and specificity in diagnosing the condition with short span of time as single diagnostic test is not sufficient. In this study GeneXpert is more sensitive and specific and gives earlier results with the advantage of simultaneous detection of rifampicin resistance.

**Keywords:** MDR, XDR, CBNAAT, GeneXpert, RT PCR.