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Title: Evaluation of real time polymerase chain reaction in tubercular mediastinal lymphadenopathy

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Body: Introduction: Mediastinal lymphadenopathy is a common manifestation of tuberculosis. Several other conditions such as Sarcoidosis and lung cancers also cause mediastinal lymphadenopathy. Radiology alone does not provide a diagnosis of TB in such cases. Conventional methods such as culture on LJ medium give results after several weeks while ZN stain for AFB has low sensitivity. We studied the sensitivity of Real Time Polymerase Chain Reaction (RT-PCR) on samples obtained by Trans Bronchial Needle Aspiration (TBNA) through fibreoptic bronchoscopy. Aims and Objectives: To evaluate the sensitivity of RT-PCR in cases of mediastinal lymphadenopathy due to tuberculosis. Methods: RT-PCR was performed in 39 consecutive patients of mediastinal lymphadenopathy who underwent fibreoptic bronchoscopy and TBNA of the mediastinal nodes. Final diagnosis of all patients was based on Histopathology, ZN staining and BACTEC culture for AFB. RT-PCR was performed by detecting amplification reaction for the insert element IS6110 of the Mycobacterium tuberculosis complex (Biotub-QT, Biotools Labs, Spain) using a real-time centrifugal amplifcation system (Rotor-Gene 3000, Corbett Research, Australia). Results: Of the 39 cases of mediastinal lymphadenopathy, 21 were due to tuberculosis. In 11 cases the cause was Sarcoidosis and 7 cases were due to malignancy. RT-PCR was positive in 19 of the 21 cases of tuberculosis (Sensitivity 90.48%). There was 1 false positive RT-PCR in a case of lung malignancy. The Specificity of RT-PCR in tuberculosis was 94.74%. Conclusion: Real time PCR is valuable in the diagnosis of mediastinal lymphadenopathy due to tuberculosis with a sensitivity of 90.48% and specificity of 94.74%.