SUMMARY AND CONCLUSIONS

1. This study was undertaken to assess the efficacy of PCR to diagnose pulmonary and extrapulmonary tuberculosis. Results of PCR were compared with conventional methods of microscopy and culture.

2. A total of 91 clinical specimens were included in the study. These comprised of 50 pulmonary and 41 extrapulmonary specimens.

3. Microscopy was done by Zhiel-Neelsen staining, culture on Lowenstsein-Jensen’s medium and PCR by GeNei amplification regent set for *M.tuberculosis* (MTB 25), targeting the IS 6110 segment of *M.tuberculosis* genome.

4. Of the total 91 specimens, microscopy was positive in 27 (36.28%). It was positive in 19 (38%) pulmonary and 8 (19.51%) extrapulmonary specimens.

5. Culture was positive in 33 (36.26%) specimens of the total of 91 specimens. It was positive in 24 (48%) pulmonary and 9 (22%) extrapulmonary specimens.

6. All culture isolates were identified by biochemical tests as *M.tuberculosis*. 
7. PCR gave an overall positivity of 60.43% (55 specimens) for the 91 specimens. It was positive in 35 (70%) and 20 (48.78%) pulmonary and extrapulmonary specimens respectively.

8. The sensitivity, specificity, PPV and NPV for PCR considering culture as gold standard was for pulmonary group 100%, 57%, 68% and 100% and for extrapulmonary 100%, 65%, 45% and 100% respectively.

9. All the three tests were further evaluated taking into account microbiological results, evidence of disease and response to anti-tuberculosis therapy. On this basis the sensitivity, specificity, PPV & NPV for all the tests was calculated. For pulmonary specimens, the SN, SP, PPV and NPV of microscopy were 57%, 100%, 100%, 54% respectively and for extrapulmonary 40%, 100%, 100%, 63% respectively. The sensitivity, specificity, PPV and NPV values for culture in pulmonary and extrapulmonary were 72%, 100%, 100%, 65% and 45%, 100%, 100% and 65% respectively. Whereas values for PCR in pulmonary and extrapulmonary groups were 100%, 88%, 94% and 100% and 95%, 100%, 100% and 95% respectively.
10. PCR in comparison with the other methods was found to be a sensitive method. It was rapid giving results in 10-12 hours. The above values for PCR shows its usefulness in diagnosis of tuberculosis. Conventional methods have their own importance. However, a combined approach of conventional methods, PCR and clinical correlation is necessary for the best diagnosis of a case of tuberculosis.