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GENEXPERT® TECHNOLOGY: A BREAKTHROUGH FOR THE DIAGNOSIS OF TUBERCULOUS PERICARDITIS AND PLEURITIS IN LESS THAN TWO HOURS

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Objective: To evaluate the diagnostic validity of GeneXpert for the detection of *Mycobacterium tuberculosis* in pericardial and pleural effusions samples.

Material & Methods: A cross sectional study was conducted at Mycobacteriology Laboratory of Allama Iqbal Medical College Lahore. A total of 286 (158 pleural & 128 pericardial fluids) samples were received from strong TB suspects, during the period of January 2014 to August 2016. Every sample was processed for Zn smear, LJ culture, GeneXpert MTB/RIF assay according to standard protocols. Validity of GeneXpert assay for the detection of MTB was evaluated keeping LJ culture as gold standard.

Results: Out of 286 effusions samples, MTB was isolated by LJ culture in 51 (17.8%) samples followed by GeneXpert in 43 (15.0%) and AFB was detected by Zn smear microscopy in 11 (3.8%) samples. GeneXpert showed high sensitivity 84.3%, specificity 100%, with Positive predictive value 100%, and Negative predictive value 96.7%, while Zn smear showed sensitivity 18.3%, specificity 99.1%, Positive predictive value 81.8%, Negative predictive value 85.4%. A strikingly high sensitivity of 72.2% was observed for pericardial fluid by GeneXpert.

Conclusion: GeneXpert assay is an innovative tool, for prompt detection of MTB and drug resistance. It is definitely an attractive point of care test, with high sensitivity and specificity along with turnaround time of two hours which facilitates timely diagnosis and appropriate management of Tuberculosis pleuritis and pericarditis.

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