

¹GRADSKI ZAVOD ZA BOLESTI PLUĆA I ZAŠTITU OD TUBERKULOZE BEOGRAD
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PCR U DIJAGNOSTICI TUBERKULOZE. KOMPARATIVNA ANALIZA.

PCR IN DIAGNOSTICS OF TUBERCULOSIS: COMPARATIVE ANALYSIS

Sažetak:

Tuberkuloza (TB) spada u grupu najtežih infektivnih oboljenja današnjice. Sa pojavom HIV infekcije problem tuberkuloze je dodatno usložen. Brza dijagnoza tuberkuloze preduslov je za uspešno lečenje, smanjenje mortaliteta i širenje bolesti. Osnovni problem kod mikrobiološke potvrde TB je dug period neophodan za izolaciju i identifikaciju *M. tuberculosis* (MTB). Komercijalnih PCR testovi su se nametnuli kao moguće rešenje. U periodu od 1999-2004 god. testirano je 699 uzoraka. 231 sputum, 332 urina, 96 likvora i 33 ostalih. Materijal je obrađen standardnom metodologijom. Material je testiran na prisustvo *M. tuberculosis* (MTB) PCR metodom i na Lowenstein-Jensen podlozi (LJ) kao zlatni standard. Diagnostička tačnost testa ocenjena je izračunavanjem specifičnosti i senzitivnosti testa. Cilj rada bio je utvrditi osetljivost i specifičnost PCR metode u dijagnostici TB a u odnosu na standardnu metodu kultivacije na LJ podlozi. Specifičnost PCR je bila 0.929. Osetljivost 0.636. na ukupan broj uzoraka. Kod sputuma je specifičnost bila 0.975, a osetljivost 0.593, Likvori su imali specifičnost 0.796, osetljivost 1.000 i urini specifičnost 0.951, a senzitivnost 0.667. Zaključujemo da PCR ima visoku specifičnost i relativno nisku senzitivnost osim kada je u pitanju likvor.

Ključne reči : *M. tuberculosis*, tuberkuloza, Polymerase chain reaction, .

Summary :

Tuberculosis belongs to the group of most serious infective disease. With emergence of HIV infection, problem of tuberculosis has become more complex. Rapid diagnostics of tuberculosis is a prerequisite for successful treatment, decrease of mortality as well as spread of the disease. The main problem in microbiological confirmation of TB is a long period necessary for isolation and identification of *M. tuberculosis* (MTB). Commercial PCR assays arose as a possible solution. In the period 1999-2004, 699 samples were examined, out of which 231 sputum, 332 urine, 96 liquor and 33 other samples. Material was investigated by standard methodology. Material was tested for presence of *M. tuberculosis* (MTB) by PCR method, at Lowenstein-Jensen medium (LJ) as a gold standard. Diagnostic accuracy of the assay was estimated by calculation of sensitivity and specificity. The aim of the study was to determine sensitivity and specificity of PCR method in TB diagnostics in relation to standard method of cultivation on LJ medium. Specificity of PCR assay was 0.929 and sensitivity of 0.636 for the total of samples. Sputum samples showed sensitivity of 0.593 and specificity of 0.975; liquor sensitivity of 1.000 and specificity of 0.796; urine sensitivity 0.667 and specificity 0.951. In conclusion, PCR proved to have high specificity and relative low sensitivity.

Key words: *M. tuberculosis*, tuberculosis, polymerase chain reaction.