CHAPTER - 7

SUMMARY & CONCLUSIONS
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This study of pulmonary tuberculosis – A hospital based study on Isolation, Identification and drug Resistance in *Mycobacteria* was conducted the Department of Microbiology, M.L.B. Medical College Jhansi.

The study population comprised of 2 group:

a. Group I: Three hundred clinically and/or radiologically suspected patients of pulmonary tuberculosis.

b. Group II: One-hundred disease controls with non-tuberculous chest infections.

The male and female ratio was 1.7:1 and 1.8:1 with maximum number of males in 21 to 40 years age group, in both the groups and in both sexes.

Cough with expectoration was the main presenting symptom followed by weight loss, anorexia, fever, breathlessness, chest pain and haemoptysis.

Ziehl Neelsen method, Auramine O method and Petroff’s Zephiran-Trisodium phosphate and *N*-acetyl L-cystein sodium Hydoroxide concentration method, which are used for detection of acid-fast bacilli were compared. Ziehl Neelsen method detected
63.44 percent and Fluorecent microscopy 69.33 percent acid-fast positive sputum samples. N-acetylene L-cystine NaOH, Zephiran-Trisodium phosphate and Petroff’s methods detected 73.88%, 74.44% and 75.44% AFB positive sputum samples respectively. Thus Petroff’s concentration method was found to be the best.

!4! Only single sputum examination detected 56.3 percent patients by standard Ziehl Neelsen stain. Second & Third sputum samples detected additional 4.6 percent and 10.33 percent, respectively.

!5! Culture was positive in 81.66 percent patients and majority of the strain grew on Lowenstain Jensen medium by 4th week. However growth was detected as long 7th week in 6 patients slopes.

!6! *Mycobacterium tuberculosis* was the predominant species isolated (217/245). NTM accounted for 11.42 percent cases (28/245). *M. kansas* was the main NTM isolated.

!7! 62.8 percent *M. tuberculosis* isolates were resistant to one or more drugs. No initial drug resistance was seen against Pyrazinamide and a variable degree was seen against other drug. Acquired drug resistance was seen in many isolates against all the drug. Multidrug resistance was acquired in all the patients and resistance to single drug was initial.
Most of the isolates were susceptible to Ofloxacin (91.7%), Ciprofloxacin (88.7%), Pyrazinamide (94.4%) and Ethambutol (81.9%). Other antibiotic were effective for a lesser number of isolates. Several isolates were multiple drug resistant.