INTRODUCTION

The phenomenon of resistance was detected soon after streptomycin had been introduced in the treatment of human tuberculosis. It was observed that when the drug was given alone there was at first a striking improvement in the patients symptoms, together with a rapid decrease in the number of bacilli in the sputum, but that the number of bacilli usually increased again and the patient's condition deteriorated. It was found that the bacilli isolated from the sputum of patients who had received streptomycin alone for a few months were drug resistant i.e the bacilli instead of being Killed, continued to grow inspite of the presence of high concentration of the drug, (Toman, 1979).

One of the most serious limitation to success of any control or treatment program of tuberculosis is the occurrence of resistant strains to the commonly employed anti-tuberculosis drugs; this is because diminished clinical responses usually results in patients where the infective organisms are resistant to the drugs used for the treatment. Drug resistance has also great epidemiological importance, because for the patients who are infected with such resistant bacilli, the drugs soon become ineffective or considerably less effective. Even administration of

retreatment regimens proves considerably less effective as compared to the standared intitial chemotherapy in the case of drug sensitive tubercle bacilli. (RAO, 1972).

Culture of the tubercle bacillus is an essential part of the investigation of tuberculosis. A laboratory diagnosis, independent of clinical findings, cannot be made until the bacillus has been cultured or has produced typical lesion after animal inoculation. Since culture usually gives a more rapid result and is more economical it is the method of choice. (Stokes and Ridgway, 1980). A negative culture is of more value than negative microscopy alone because cultures are frequently positive when no organisms can be found in the stained film. Moreover when the bacillus has been culutred it can be tested for sensitivity to therapeutic substances.

Treatment of tuberculosis is based on the use of two or more drugs in concert to prevent the emergence of resistant mutants (Joklik et al, 1984). The initial choice of regimen depends on the patient population. For newly diagnosed tuberculosis patients in whom the risk of inital isoniazid resistance is small, the treatment of choice consists of the combination of the two bactericidal drugs, isoniazid and rifampin for a 9 months period. When there is reason, however to suspect isoniazid resistance, two drug

bactericidal therapy with only isoniazid and rifampin is hazardous. For such patients the use of four bactericidal drugs, streptomycin, rifampin, isoniazid and pyrazinamide gives uniformly favorble results. At present the role of bacteriostatic drugs (ethambutol, ethionamide and cycloserine) is limited to their use in situations where drug toxicity or presence of multiple drug resistance precludes the use of two effective bactericidal drugs.