CHAPTER VII

CONCLUSION

The comparison of methods for susceptibility testing of MAC to clarithromycin resistance and determination of the association of clarithromycin resistance with point mutation in 23S rRNA gene were studied and concluded as follows.

The BACTEC MGIT 960 method and E test evaluated in this investigation appeared to be as reliable as a broth microdilution performed according to NCCLS guidelines. There was excellent agreement between BACTEC MGIT 960, E test and broth microdilution method in all MAC isolates, 97 isolates were susceptible to clarithromycin and 3 isolates were resistant to clarithromycin. The present study suggested E-test MIC of ≤16 μg/ml as susceptible, 32 μg/ml as intermediate and ≥64 μg/ml as resistant for susceptibility testing of MAC to clarithromycin. Sequencing analysis revealed wild-type genotype in clarithromycin susceptible isolates and mutation of A to either C or G (A2058/,-C or -G) in clarithromycin-resistant isolates of MAC.

BACTEC MGIT 960 is a good method for the detection of clarithromycin resistance in MAC but its high cost limited the use for MIC determination. This method could be applied only to determine cut-off MIC for resistance. E test is a promising alternative to the broth microdilution in diagnostic mycobacteriology laboratory because it is reliable, easy, rapid and cost-effective.