CHAPTER VII

CONCLUSION

The PCR for detection of *C. pneumoniae* was developed by using 2 different primer sets; the *omp1* primers specific to major outer protein genes and 16S rRNA primers specific to 16S rRNA genes. The amplified products were analyzed by agarose gel electrophoresis, the nested primers and dot blot hybridization. When the amplified products were analyzed by gel elctrophoresis, the *omp1*-based PCR and 16S rRNA-based PCR had sensitivity of 10 and 1 IFU of *C. pneumoniae* elementary body. After the first step PCR product were analysed by using the nested primer and dot blot hybridization, the sensitivity of *omp1*-based PCR and 16S rRNA-based PCR increased to 1 and 0.1 IFU, respectively. The efficiency of the PCR for detection of *C. pneumoniae* in clinical specimens was evaluated and found that eleven patients were positive, which correlated with serology test (MIF). Three patients who were PCR positive had serological negative resultand considered as false positive. The false positive due to amplicon carryover was prevented by incorporating of dUTP instead of dTTP and adding the UNG in reaction mixture prior to PCR. For this experiment, amplicon carryover was not found in all PCR tested because the negative controls were always negative. The present results highlight the difficulty in the diagnosis of *C. pneumoniae* infection. A single serological test, a common clinical practice, can lead to misinterpretation. PCR is a promising technique for the early detection of *C. pneumoniae* in clinical specimens. It was both sensitive and specific, therefore the combination of PCR and serological test was recommended to confirmed the aetiological role of *C. pneumoniae* in community-acquired pneumonia and others respiratory tract infection.