



CHAPTER V

CONCLUSION

The results of the present study suggested the following conclusions:

(1) Subinhibitory concentrations ($\frac{1}{2}$, $\frac{1}{4}$ MIC) of ampicillin and gentamicin affected the growth of *S. aureus* and *P. aeruginosa* and the growing period of these cultures was longer than normal.

(2) Minimal inhibitory concentration and subinhibitory concentrations of ampicillin seemed to inhibit enzymes contributed to lysis of septum in *S. aureus* during cell division, so resulted in large and abnormal shapes with oval and other irregular morphology as well as thick cross wall, and inhibited enzyme systems responsible for biosynthesis and deposition of cross wall (septum) peptidoglycan in *P. aeruginosa* so they induced septumless filaments.

(3) Some of these antibiotic-treated cells seemed to retain abnormality as seen after subculturing in drug-free TSB for 18 hr.

(4) Gentamicin inhibited protein synthesis so in subinhibitory concentrations, it did not markedly affect the morphology of the microorganisms as seen in Gram staining smears.

(5) Cultures of microorganisms in drug-free TSB after pre-exposure to the antibiotics in some condition, were more resistant to such antibiotics and others than normals.