CHAPTER 5

CONCLUSION

The toxin of Pseudomonas aeruginosa described here is an endotoxin, it was simply isolated from the cell wall of P. aeruginosa by extracted with hot water. The purification described provides a simple and reliable method for preparation of substantial amount of partially purified endotoxin and it is also clearly shown that the endotoxin is one of the major components of the cell wall. Therefore, it could be then excepted that a relatively simple purification would be effective for isolation of endotoxin.

The term of toxicity, although the preparation we used was not the completely pure material, 1 LD_{50} for mice of 20 g. body weight contained 130 mcg. of the protein preparation. The mice died within 24 to 48 hours post-injection of endotoxin, and the prominent findings at autopsy included the cloudy swelling of the hepatocytes around the central vein of the liver cells, hyperemia in the glomeruli and some degeneration of the tubular cells of the kidney, and the spleen showed an increase in number of megakaryocytes, lymphocytolysis and active phagocytosis.

When rabbits were immunized as for the production of antitoxin sera, the antibody response resoluted in the production of a heavy precipitin lines in gel diffusion test. The direct immunofluorescent antibody technique demonstrated that the endotoxin is distributed as limited-spotty regions in kidney, spleen and liver cells.

The in vitro neutralization test demonstrated that the antibody obtained had considerable protective activity against the endotoxin after in vivo demonstration. Furthermore, it would be extrapolated from this observation to clinical circumstances with to notion that the use of antitoxin sera with antibiotic might be needed for additional therapeutic approaches.