

CHAPTER 5

CONCLUSION

Two groups of combined vaccine of B. anthracis and P. multocida were evolved to study: 1) bivalent vaccine with alum and 2) bivalent vaccine without alum and they were compared with monovalent vaccines of each organism in this experiment. The immunity induced by them in each group of three rabbits was assessed by agglutination tests and mouse passive protection tests.

The antibody titers of the two groups of bivalent vaccine against B. anthracis (spore antigen) were lower than those detected against P. multocida, but no significant difference of titer between antibodies against P. multocida obtained from monovalent and bivalent vaccines was observed.

1 LD₅₀ for mice of B. anthracis contained 3.55×10^2 spores (range $7.85 \times 10 - 1.60 \times 10^3$ spores) and 1 LD₅₀ of P. multocida contained 6 cells (range 3 - 9 cells)

Experiments on passive protection in mice showed that immunoglobulins obtained from each group of bivalent vaccine provided partly protection (15 - 30%) against 75 LD₅₀ of the virulent strain of B. anthracis and provided the absolute protection against 100 LD₅₀ of the virulent homologous strain of P. multocida. The immunoglobulin obtained from bivalent vaccine with alum gave more protection against B. anthracis than non-alum bivalent vaccine.

When a booster dose of immunoglobulin was administered 24 hr after challenge of B. anthracis, percent survival of mice was double increasing. No different result between bivalent vaccine with alum and monovalent vaccines of each organism was obtained in either antibody titer or passive protection studies.