

A FURTHER REPORT ON JOINT-ILL IN FOALS

PART I. INTRODUCTION.

A previous investigation having brought to light certain facts that seemed to be of importance in connection with this disease, it was considered advisable to immediately test the value of this information by practical application. This report contains the results of tests made during the spring and summer months of the year 1915, along with much bacteriological data collected from individual cases of the disease which were investigated.

It may be advisable to briefly mention some of the important facts which were the outcome of the previous investigation.

(a) That no organism was found to be constantly present in this disease. In other words, no specific organism was isolated.

(b) That apparently several organisms may be responsible for the infection.

(c) That the cause of the disease can be transmitted to the foal before birth, or placental transmission.

(d) That streptococci were the organisms most frequently isolated from the lesions, except in districts where contagious equine abortion was prevalent. In the latter case the *Bacillus Abortivus Equinus* may frequently be isolated.

(e) That a vaccine (bacterin) prepared from the organism commonly associated with the disease gave very promising results in treatment.

It was the last fact which led to the major part of the experimental work here recorded. In a preliminary experiment, the use of a vaccine in the treatment of this disease had reduced the mortality from about 66 per cent. to 25 per cent. The question then arose, if such good results can be obtained when using the vaccine, could not equally good results be secured in preventing the disease by vaccine as a prophylactic? Or, in other words, might not the disease be prevented by administering a suitable dose of the vaccine to the foal as soon after birth as possible? It is well known that satisfactory immunity can be developed both in animals and man against certain diseases by suitable methods of inoculation. No better example could be given than the use of blackleg vaccine as a prophylactic against symptomatic anthrax in cattle. Although my expectations ran high as to the possible results from using a preventive vaccine against the disease, the fact that the immunity had to be against a streptococcal infection lessened the possibility of anything really phenomenal. It has been the experience of many investigators, that antibodies to streptococci are both difficult to produce or demonstrate.

The large group of bacteria known as the streptococci are still a puzzle to the bacteriologist. At the present, there is no satisfactory classification of these organisms, so that from many standpoints one is working entirely in the dark.

The protection of rabbits against streptococcal arthritis was attempted by J. J. Moore, but with unfavorable results. His conclusions were, that prophylactic inoculations in the rabbit, against a disease almost identical with septic arthritis in the foal, were an absolute failure.

These peculiar difficulties must be remembered when passing judgment on the results obtained.