

vitamin K substitutes which we employed were not identical with that used by the Polish workers. Since their compound and the 2 used in this study possess marked vitamin K activity,^{8,9} it is most unlikely that our failure

⁸ Dam, H., *Advances in Enzymology*, 1941, **2**, 285.

⁹ Smith, J. J., Ivy, A. C., and Foster, R. H. K., *J. Lab. and Clin. Med.*, 1943, **28**, 1667.

to confirm their work can be attributed to this difference. We can offer no explanation for the divergent results.

Summary. Contrary to the results of Fleck and Lille, the prothrombin level is not reduced after the administration of antiplatelet serum to rats, nor are the manifestations of experimental thrombocytopenic purpura modified by large doses of vitamin K substitutes.

15437 P

Control of Salmonella Infections in Mice by Streptomycin.

CHARLES A. SLANETZ. (Introduced by H. D. Kesten.)

From the Department of Animal Care, College of Physicians and Surgeons, Columbia University, New York.

Preliminary observations on the use of streptomycin to control paratyphoid infections in mice indicated that this antibiotic given orally may be an effective means of eliminating *Salmonella* infections in colonies of mice and other laboratory animals for considerable periods of time. This paper reports the results of work* started in November 1945 when it was found that *Salmonella* organisms were responsible for both decreased production of mice needed for the Japanese B encephalitis vaccine program and also were the cause of contamination of the final vaccinal product.

A commercial mouse colony which was supplying mice for the Japanese B program was selected for streptomycin feeding since mouse brain vaccine prepared from these mice contained *Salmonella* organisms. Individual fecal samples were collected from the 1400 breeders in the colony, and streaked on brilliant green agar. Of this number, 30 adult mice in 6 breeding units yielded positive cultures (*Salmonella enteritidis*). Streptomycin† was incorporated in the drinking water of the

entire colony for 7 consecutive days so that the daily intake per mouse was approximately 100 units. Two weeks later 100 young mice were used from the same 6 *Salmonella* positive units for vaccine production. No paratyphoid organisms were found in the vaccine produced from this group. The 30 positive adult mice and 24 of their offspring were tested 4 weeks after the streptomycin was fed and at monthly intervals thereafter. Only one adult mouse yielded a positive fecal culture in the first test, and all 4 subsequent tests on both young F_1 and old mice were negative for the presence of paratyphoid organisms.

As a further development of these findings experiments are now in progress to study the effect of 25, 50, 100, 200, 400 and 1000 units of streptomycin daily on the spread of *S. enteritidis* infection in groups of mice consisting of infected and non-infected individuals. The results to date with one strain of *S. enteritidis* are encouraging but incomplete. In addition, mice have been injected with *S. enteritidis* and simultaneously with *S. typhimurium* cultures isolated from mice of 20 other commercial colonies. In mice receiving the combined injection it was found that *S. enteritidis* was more susceptible to streptomycin than *S. typhimurium*.

* This work was conducted under the Rockland Farms Research Fund.

† We are greatly indebted to Dr. Gladys Hobby of Chas. Pfizer & Co., New York, for the streptomycin used in these studies.