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Sensitization of Rabbits with Neoarsphenamin.

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Although it has been demonstrated^{1, 2, 3} that guinea pigs can be readily sensitized to neoarsphenamin, Frei¹ reported that he could achieve no hypersensitiveness to this drug in rabbits. In view of the findings of Sulzberger and Mayer⁴ that guinea pigs bred in different countries reacted differently to the same brand of neoarsphenamin, experiments have been carried out to determine whether the rabbits bred in Peiping could be sensitized by this compound.

The brand of neoarsphenamin used throughout the work was that prepared by Hoechst Company, Germany. The ampules used for each experiment were from the same batch. 0.15 gm. of the drug was dissolved in 10 cc. of doubly distilled water and the solution diluted to 100 cc. with sterile normal saline. Only freshly prepared solutions were employed.

Observations have been made on 50 native bred adult male rabbits; individual body weights varied from 1350 to 2320 gm. All animals were albinos and the majority were of a delicate build with a slender head and moderately short ears. Thirty rabbits had been in-

¹ Frei, W., *Klin. Wchnschr.*, 1928, **7**, 1026.

² Sulzberger, M. B., *Arch. Dermat. and Syph.*, 1929, **20**, 669; 1930, **22**, 839.

³ Mu, J. W., to be published in *Arch. f. Dermat. u. Syph.*

⁴ Sulzberger, M. B., and Mayer, R. L., *Arch. Dermat. and Syph.*, 1931, **24**, 537.

oculated with *Treponema pallidum* from 4.5 to 34 months previously. At the time of the present experiments, only 4 showed active syphilitic lesions, the remainder being in the latent stage of the infection. Twenty-four hours before each experiment, the skin over both flanks was shaved; only ordinary soap was used. In each instance, the right flank was used for the first, and the left for the second injection, both being administered intradermally. The second or "testing" injection was made 4 weeks after the administration of the sensitizing injection. In the case of 8 normal and 12 syphilitic rabbits, 0.1 cc. was used for both the sensitizing and the testing doses. Twelve normal and 18 syphilitic rabbits were sensitized and tested with 0.2 cc. respectively.

Of the 8 normal rabbits sensitized and tested with the smaller amount of neoarsphenamin (0.1 cc.), none had either a flare-up or a hypersensitiveness reaction. Of the 12 syphilitic animals in which the same procedure was used, 1 showed a flare-up reaction and 2 a hypersensitiveness reaction. Of the 12 normal rabbits sensitized and tested with 0.2 cc., only 1 developed a flare-up and hypersensitiveness reaction. But of the 18 syphilitic rabbits sensitized and tested with this dose, 3 revealed a flare-up reaction and 9 a hypersensitiveness reaction. It should be pointed out that these responses were entirely similar in appearance to those previously observed in guinea pigs.³

In the last experiment, 5 normal young male albino rabbits were also sensitized and tested with doses of 0.2 cc. respectively. Two showed a flare-up reaction and 3 a hypersensitiveness reaction. These rabbits were from 2 to 2.5 months of age and their weights ranged from 500 to 920 gm.

The results of these preliminary experiments show that rabbits may be sensitized to neoarsphenamin by intradermal injections. It would seem, furthermore, that the incidence of hypersensitiveness is higher in syphilitic than in normal rabbits, but in view of the small number of animals used, this conclusion is only tentative and may be modified by the results of further studies now in progress.