High blood levels of streptomycin were observed after parenteral administration and 23 to 65 per cent was excreted in the urine of normal dogs. After 4 or 5 hours only small amounts were detected in the blood.

The maintenance of blood levels was no better with intramuscular than with intravenous administration.

Following the oral administration of as much as 420,000 units of streptomycin, it could not be detected in the plasma, but up to 3.9 per cent was recovered from the urine.

References

1. Elias, Wm. F., and Dursa, Jane. *Science*, 1945, **101**, 589.
2. Heilman, D. H., Heilman, F. R., Hinshaw, H. C., Nichols, D. R., and Herrell, W. E. *Amer. J. med. Sci.*, in press.
3. Loo, Y. H., *et al. J. Bact.*, in press.
4. Reimann, H. A., Elias, Wm. F., and Price, A. H. *J. Amer. med. Ass.*, 1945, **128**, 175.

The Activity of Streptomycin in Experimental Syphilis

Wolcott B. Dunham and Geoffrey Rake
The Squibb Institute for Medical Research
New Brunswick, New Jersey

The striking therapeutic response following the treatment of syphilis with penicillin prompted the investigation of the action of streptomycin in experimental syphilis.[1]

Herrell and Nichols (*1*) have recently reported the results of the treatment of four cases of syphilis with streptomycin. Improvement was noted, but relapses occurred even after the administration of 10,000,000 units over a period of 10 days.

The technique employed in the present study will be described subsequently in full (*2*). A brief summary follows. Suspensions of rabbit testes infected with the Nichols strain of *T. pallidum* were employed to infect rabbits by intracutaneous injections in the clipped skin of the back. Commencing within three days, intramuscular injections of streptomycin or crystalline penicillin G[2] were made every four hours for four days. When lesions developed at the site of inoculation, their syphilitic nature was confirmed by dark-field examination for spirochetes. All other rabbits were kept for four months, at which time a suspension of the popliteal lymph nodes of each rabbit was injected intratesticularly in two rabbits. If the testes of these rabbits remained normal, the donor rabbit was judged to have been cured. The streptomycin preparations employed had potencies of 158 units/mg. to 229 units/mg.

A total of 79,000 units of streptomycin per kilogram of body weight protected one out of three rabbits. The three rabbits that received 650,000 units/kg. were also proved to have been cured. In another experiment, the lymph node transfers have not yet been made from the rabbits that have remained free of local lesions, but in the case of other rabbits that have been infected by the technique described above, lymph node transfers have not changed significantly the results obtained by reading the dermal lesions. In this experiment, none of the four rabbits in each of the groups that received 748,000 units/kg. and 374,000 units/kg. developed lesions. Of the four rabbits that received a total of 187,000 units/kg., three failed to develop chancres. A total of 93,500 units/kg. did not protect any of the four rabbits in this group. All control rabbits in each experiment developed typical lesions.

The smallest amounts of streptomycin that cured any of the rabbits when administered in divided doses during four days was 79,000 units/kg. (375 mg./kg.) in one experiment and 187,000 units/kg. (817 mg./kg.) in another. A similar effect was obtained with 147 units/kg. (0.088 mg./kg.) of crystalline penicillin G. It may be concluded, therefore, that the preparations of streptomycin employed have antisyphilitic action but that penicillin G is more than 3,000 times as effective.

References

1. Herrell, W. E., and Nichols, D. R. *Proc. Staff Meet., Mayo Clin.*, 1945, **20**, 449.
2. Rake, Geoffrey, and Dunham, W. B. (To be published.)

[1] The authors wish to express their appreciation to John J. Oskay for his technical assistance.

[2] Obtained through the courtesy of Dr. O. P. Wintersteiner and Dr. Max Adler, Division of Organic Chemistry, The Squibb Institute for Medical Research.

Scanning Science—

National University

The bill establishing a National University of the United States has been reported favorably by the Senate committee. It grants a charter to the University, provides for its government, grants it the ground in the city of Washington designated by President Washington as a site for a national university, and appropriates $15,000 for the fiscal year ending on June 30, 1897, and $25,000 for the year following.

Princeton University

At the recent meeting of the Board of Trustees of the College of New Jersey at Princeton it was voted to change the charter name of the institution to Princeton University. The fund which is being raised in commemoration of the Sesquicentennial next October is already over $900,000, a large proportion of which, it is said, will be devoted to the development of the graduate department.

—20 March 1896