7295 P

Bacteriology of Leprosy. III. Growth and Staining Reactions of Acid Fast Organism Inoculated into Minced Animal Tissues.

A. J. SALLE AND J. R. MOSER.

From the Department of Bacteriology, University of California, Berkeley, California.

An acid-fast organism isolated from human and rat leprous lesions in tissue cultures, has been described.[1] It is believed that this organism represents the true etiological agent of leprosy because the same organism has been isolated from several human nodules and from rat granuloma.

Acid-fast organisms were present only when minced chick embryo was used as the culture medium. On ordinary lifeless media the organisms failed to retain the fuchsin dye, but took the counterstain.

It was also found[2] that the ability of an organism to retain the acid-fast stain in minced chick embryo medium is not a phenomenon characteristic of the true bacteria (Eubacteriales), but restricted so far to organisms classified with other orders (Actinomycetales, etc.).

The question that naturally arose was whether or not the organisms became acid-fast when inoculated into minced tissues obtained from laboratory animals. Organs from full grown rabbits, guinea pigs and rats were used. The tissues were removed aseptically and minced separately in tissue grinders. The minced tissues were mixed with Tyrode solution in the following proportion: Minced tissue, 1 part; Tyrode solution, 5 parts. The media were pipetted into test tubes, about 3 cc. to each tube, after which they were ready for use.

Growth occurred within 48 hours in all of the cultures with the exception of those made with rat tissues. The results from rat tissues were much poorer than from media prepared by mincing rabbit and guinea pig tissues. Only very few acid-fast organisms were observed, and the growth was very poor.

The best results were obtained from guinea pig tissues. The number of acid-fast organisms present was even greater than when minced chick embryo medium was employed.

In the rabbit medium the pigment production appeared to be enhanced. With the other tissues pigment production was normal.

---

[1] Salle, A. J., *J. Infect. Dis.* (in press).

[2] Salle, A. J., and Moser, J. R., PROC. SOC. EXP. BIOL. AND MED., 1934, **31**, 725.

The organisms lost their acid fastness after about 5 days of incubation, reverting again to the acid-sensitive forms.

The results show that living, embryonic tissue was not necessary for the appearance of the acid-fast forms; dead sterile minced tissues obtained from adult rabbits, guinea pigs and rats produced results equally as good.

7296 C

Olfactory Tract and Poliomyelitis.*

E. W. SCHULTZ AND L. P. GEBHARDT.

From the Department of Bacteriology and Experimental Pathology, Stanford University, California.

Faber[1] has recently reviewed clinical and experimental evidence in support of the view that acute poliomyelitis is primarily a disease of the central nervous system. It is well established that virus deposited on the nasal mucous membranes in some way gains admission to the central nervous system. We have described[2] a method which has enabled us to infect 95% of monkeys inoculated with virus by the intranasal route. While it may be assumed from the evidence already reported that the virus gains entrance to the central nervous system by the way of the olfactory nerve no satisfactory proof that this is the normal route has thus far been produced. The observations we desire to report seem to offer this final evidence. This rests on a failure to infect monkeys by the intranasal route after the olfactory tracts have been sectioned with an electric cautery.

Six *Macacus rhesus* monkeys were subjected (12/6/33) to the following operation while under deep anesthesia: An incision approximately 1.5 cm. in length was made through the skin and subcutaneous tissues in the mid-nasal line almost immediately above the level of the supraorbital ridges. With a Stille's bone drill, provided with a suitable guard, a round opening, about 0.8 cm. in diameter was drilled into the frontal bone. This opening was made at approximately the level of the olfactory bulbs. With a specially

* These studies were supported by the Mrs. Mary Hooper Somers Medical Research Fund.

[1] Faber, H. K., *Medicine*, 1933, **12**, 83.

[2] Schultz, E. W., and Gebhardt, L. P., PROC. SOC. EXP. BIOL. AND MED., 1933, **30**, 1010.