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Results of Inoculation of Poliomyelitis Virus into Mice.

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It has been shown[1] that organisms suspended in commercial gastric mucin and injected intraperitoneally into mice have greater effect on the host than an inoculum of such organisms suspended in saline. With this in mind it was decided to try to produce an infection with the virus of poliomyelitis in mice with the aid of mucin.

The virus containing glycerinated monkey cord, kindly furnished by Dr. Paul Hudson, was ground with sand and diluted so that the inoculum contained about 1% of the ground cord. Mucin* was sterilized by boiling for 3-4 hours in alcohol, decanting the alcohol, drying the mucin *in vacuo* at 50° C. and finally making a 5% emulsion of it in saline.

Mice were inoculated with various lots of virus containing cord suspended in saline or mucin. Control mice received an inoculum of mucin alone or in some instances ground glycerinated normal dog cord suspended in mucin. One cc. was inoculated in each case.

Seventy-six mice have been inoculated intraperitoneally with various batches of virus suspended in mucin emulsion. Of these 13 developed a muscular weakness which tended to affect particularly the hind legs and tail. Two mice developed a flaccid paralysis, one of the left side and the other of the right hind leg. Deaths have occurred in 22 mice in from 1 to 41 days (average 9.4 days) following inoculation. In 8 of these animals the lungs, which partially collapsed on opening the chest, were red to dark red. Heart blood of these mice inoculated to blood agar gave no evidence of infection.

Thirty-nine mice were inoculated with virus suspended in saline. Weakness was noted in 4 of these in from 2 to 9 days. Death occurred in 6 mice in from 1 to 16 days (average 5.8 days). Flaccid paralysis of the extensor muscles of the right hind leg was noted in one. This instance of paralysis as well as of the cases of paresis that developed and 5 of the 6 deaths in the saline group occurred with a lot of virus material which appeared to be particularly virulent for mice. This material killed 3 out of 3 mice inoculated

[1] Nungester, W. J., Wolf, A. A., Jourdonais, L. F., PROC. SOC. EXP. BIOL. AND MED., 1932, **30**, 120.

* Dr. S. Fogelson suggested the use of and supplied washed gastric mucin which is now used in place of the commercial gastric mucin previously employed.

with it and mucin in 1 day, and 3 out of 3 mice in the saline group in 1, 2, and 3 days respectively. Also 2 out of 4 mice given 1:100 of the usual inoculum in saline died in 9 days. Blood cultures of the heart blood of the saline animals failed to reveal an infecting organism. A spreading type of growth covered the surface of plates receiving the inoculum from the mucin mice in this test, which was interpreted as a post mortem invasion or contamination.

Mucin alone or mucin and emulsified glycerinated normal dog cord has been inoculated into 16 mice, one of which died in 1 day. No paresis or paralysis developed in the other animals.

Seven attempts to establish serial infections in mice have been made. Three of these efforts resulted essentially in failure. However from the cords of mice dying in the 4th generation of series I, suggestive histological evidence for an inflammation of the spinal cord has been uncovered by Dr. Weil in a study of material from this work. A filtrate of the ground organs of these mice when injected intraperitoneally with mucin into 2 mice produced weakness in 6 days and death in 18 days in one mouse and weakness at 17 days but no death in the other.

Conclusion. Although the work presented does not prove conclusively that mice can be infected with poliomyelitis virus, the evidence, when considered together with the histological study of the material by Dr. Weil, appears to warrant further consideration of the mouse as an experimental animal for the study of this disease.

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A New Type of Centrifuge Tube for Preparation of Blood Serum for Accurate pH Work.

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The conventional methods for the preparation of blood serum for pH determination involve the following steps:[1] the blood is drawn into centrifuge tubes under oil; the oil is displaced with wax or with a rubber stopper; after centrifuging, the wax or rubber stopper is again replaced with oil and the serum lying between the oil and the cells is withdrawn with a pipette which also contains some oil. Aside from being time-consuming this procedure has a

[1] Austin, Cullen, Hastings, McLean, Peters, and Van Slyke, *J. Biol. Chem.*, 1922, **54**, 121.