

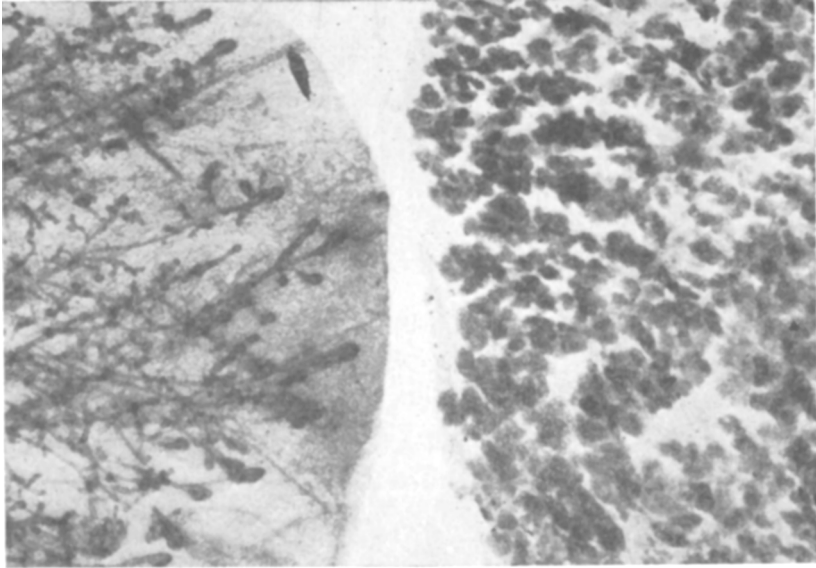


FIG. 1.

Left: Mammary gland from control rat W 27 injected daily from day 21 until day 50 with saline.

Right: Same from rat W 94 injected daily from day 21 until day 50 with 2 mg lactogenic hormone.

Note complete lobular development. Magnification $\times 10$.

Summary. Lactogenic hormone in doses from 0.5-2.0 mg given subcutaneously daily beginning at day 21 to rats did not delay, but in some cases may have slightly advanced the day of vaginal opening. Continued injection of the same doses of hormone thereafter resulted in continuous vaginal mucification for the duration of experiment (approximately two weeks) and in lobular development of the mammary gland.

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Poliomyelitis Virus from Flies.*

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Flexner and Clark¹ and Howard and Clark² have demonstrated

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¹ Flexner, S., and Clark, P. F., *J. A. M. A.*, 1911, **56**, 1717.

² Howard, C. W., and Clark, P. F., *J. Exp. Med.*, 1912, **16**, 850.

that artificially contaminated house flies can carry the virus of poliomyelitis. Rosenau and Brues³ and Anderson and Frost⁴ allowed stable flies to bite poliomyelitis-infected monkeys first and then non-infected animals, which subsequently came down with poliomyelitis. Rosenow, South and McCormack⁵ were able to produce the disease by injecting filtrates of flies collected in epidemic areas, although the disease was not transferable to other monkeys. Recently, Paul, Trask and associates⁷ isolated virus from flies obtained from two widely separated areas—Connecticut and Alabama.

During the past 10 years, 20 experiments were done in this laboratory to recover poliomyelitis virus from house flies, all of which were unsuccessful. Dead flies were washed and the suspension filtered. The filtrate was injected either intracerebrally or intranasally, or both, into *M. mulatta* monkeys. A few experiments with filtrates of ground stable flies were also unsuccessful.

Although the disease morbidity decreases after the first frost and the fly population is minimal at the same time, and although virus might be found in or on flies during large epidemics, these facts seemed to be of slight epidemiologic importance because: (1) the virus could not be consistently recovered from these insects during either epidemic or non-epidemic years; (2) the disease did not always occur in crowded communities infested with flies, but more often in clean surroundings devoid of flies; (3) the peak of the disease and that of the greatest fly population did not correspond.⁶ It was thought, nevertheless, that it should be possible to isolate the virus from some flies, especially from those which in epidemic areas would become grossly infected. Thus, if flies were selected from areas contaminated with sewage, positive results might be obtained.

Since virus material might be absent or present in subinfective doses in one or two flies, it was decided to work with large numbers of these insects. Fly traps were set near the mouth of a brook that emptied raw sewage into Lake Erie. Excrement was plainly visible on the top of the water. This brook drained parts of the northeastern section of the city where the epidemic first appeared this year—an

³ Rosenau, M. J., and Brues, C. T., *Trans. XV Internat. Cong. Hyg. and Demog.*, Washington, 1912, 1913, **1**, 616.

⁴ Anderson, J. F., and Frost, W. H., *U. S. Pub. Health Rep.*, 1912, **27**, 1733.

⁵ Rosenow, E. C., South, L. H., and McCormack, A. T., *Kentucky Med. J.*, 1937, **35**, 437.

⁶ Johnson, G. A., *J. Am. Water Works A.*, 1916, **3**, 249, 857.

⁷ Paul, J. R., Trask, J. D., Bishop, M. B., Melnick, J. L., and Casey, A. E., *Science*, 1941, **94**, 395.

area in which a large number of cases were found. A large yield of flies was obtained, mostly large, blow flies with only an occasional small house fly and a few wasps and moths.

About 2,000 etherized flies were put in a glass bead grinder, 200 cc of sterile distilled water added, the whole ground to a homogeneous fluid and then centrifuged. To the supernate was added 15% ether and the mixture was left in the icebox over night. The next morning the suspension was poured into a large Visking casing, which was hung between electric fans, and it dried to a residue in from approximately 72 to 96 hours. The latter was then suspended in 120 cc of normal physiologic saline and 15% ether was added; the next day the suspension was tested for sterility. The mixture was still contaminated, and it was again treated with ether. When it was sterile, the ether was drawn off from the suspension under a partial vacuum.

Two cc of the suspension was injected intracerebrally into a *M. mulatta* monkey, 0.5 cc was instilled into each nostril daily for 5 days, and 35 cc intraperitoneally. The intraperitoneal injection was repeated on the fourth day.

This monkey developed muscle weakness on the seventh and unmistakable poliomyelitis on the tenth day. It was sacrificed. Another animal injected in a similar manner also developed the disease. A 10% suspension of the cord of the first animal sacrificed was injected into a third monkey, and the disease was produced.

A second isolation has been made from flies collected in an out-house. Sabin and Ward⁸ have also isolated virus from flies collected this season from 3 urban areas—2 in Cleveland, Ohio, and one in Atlanta, Georgia.

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Hereditary Predisposition to Sensitization in Guinea Pigs.*

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Blocking experimental studies on the inheritance of allergy has been lack of a sensitizing agent which would discriminate sharply

⁸ Sabin, A. B., and Ward, R., personal communication.

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