presence of foreign (human) nervous tissues along with the virus, and probably is not simply a summation effect of the two virus injections.

The events following the second or accelerating injection of virus are characterized by an abrupt rise in temperature (105° to 106°+ F.) and the onset of paralysis, often rapid, which may progress quickly to prostration and death. The accelerating action has now been shown to apply also to monkeys receiving the virus by instillation into the nasal cavities. Since the natural infection in man takes place through these cavities, this observation may prove to have practical import. The virus, in suspension, is dropped into the nares on two successive days; and if infection does not manifest itself in from 7 to 10 days, the instillations are repeated. After one or two such instillations, symptoms, consisting of fever and paralysis, may manifest themselves promptly, as in the instances of intracerebral inoculation.

The sudden onset of severe symptoms following the second nasal instillations has suggested not only relationship with the phenomenon in children described by Draper[2] under the term "dromedary" type of poliomyelitis, but has also supplied a possible explanation of its nature. According to this provisional explanation, the "dromedary" effect is a result of reinfection, arising either from the patient himself (autochthonous infection) or from a new exposure to the virus.

The path of the virus introduced into the nares—ascending by way of olfactory nerve cells in the mucous membrane to the olfactory lobes of the brain, and then to other parts of the nervous system in regular sequence—has become more firmly established as the experimental study of poliomyelitis has progressed.[3] The part taken by the meningeal choroid plexus complex in the extension of the virus has been little studied.[4] Upon examining, on successive days, the cerebrospinal fluid withdrawn by lumbar puncture after the first and second sets of nasal instillations of virus, it was found that the number of mononuclear cells in the fluid increases considerably, even before the appearance of any symptoms of infection, except sometimes fever (105° F.), and that the occurrence of fever, increased cells and the presence of globulin in the fluid may be the only detectable pathological effects of the instillations. However, the second instillations are succeeded, but not invariably, by a further rise in cells and by the appearance of paralysis, which may extend rapidly, leading to death; or the paralysis may be partial, become arrested and terminate in recovery. It remains to be determined whether monkeys which develop the cerebrospinal fluid changes only, exhibit later a heightened resistance (immunity) to the virus injected intracerebrally, and whether the blood serum has acquired antiviral properties. The occurrence of these mild effects from the instillations may profitably be compared to the alterations in the cerebrospinal fluid observed during epidemics of poliomyelitis in certain children who develop no detectable paralytic symptoms whatever.

The acceleration procedure has been employed advantageously in still other ways: (1) To determine the neutralizing action of blood sera in respect to strains of virus differing qualitatively and quantitatively from one another; and (2) to throw light on the degree and duration of active immunity in monkeys that have recovered from an acute attack of experimental poliomyelitis, or have been rendered immune by the intradermal injection of virus. In the first instance, intracerebral, and in the second, intranasal inoculation is performed. A greater degree of regularity and accuracy has been introduced into these difficult tests by the use of the acceleration method in the experimental study of poliomyelitis.

SIMON FLEXNER
LABORATORIES, THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH, NEW YORK

[2] G. Draper, "Acute Poliomyelitis," p. 40. P. Blakiston Son and Co., Philadelphia, 1917.

[3] S. Flexner and P. F. Clark, "A Note on the Mode of Infection in Epidemic Poliomyelitis," *Proc. Soc. Exper. Biol. and Med.*, 10: 1, 1912.

[4] S. Flexner and H. L. Amoss, "The Relation of the Meninges and Choroid Plexus to Poliomyelitic Infection," *Jour. Exper. Med.*, 25: 525, 1917.

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