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8913 P*

Cultivation of the Virus of the Common Cold in the Chorio-Allantoic Membrane of the Chick Embryo.

YALE KNEELAND, JR., K. C. MILLS AND A. R. DOCHEZ.

From the Department of Medicine, College of Physicians and Surgeons, Columbia University, and the Presbyterian Hospital, New York City.

We have reported the successful cultivation of the virus of the common cold in an anaerobic medium containing chick-embryo tissue.[1, 2] Our purpose in the present communication is to describe the cultivation of this virus in the chorio-allantoic membrane of the developing chick-embryo.

This technic for the cultivation of the viruses of infectious diseases was developed by Woodruff and Goodpasture[3] for the propagation of fowl pox virus, and later succeessfully applied by them

* P represents a preliminary, C a complete manuscript.

1 Dochez, A. R., Mills, K. C., and Kneeland, Y., Jr., PROC. SOC. EXP. BIOL. AND MED., 1931, **28**, 513.

2 Dochez, A. R., Mills, K. C., and Kneeland, Y., Jr., *J. Exp. Med.*, 1936, **63**, 559.

3 Woodruff, A. M., and Goodpasture, E. W., *Am. J. Path.*, 1931, **7**, 209.

and others to a number of different viruses. Wilson Smith[4] reported the cultivation of a mouse-passage strain of human influenza virus by this means. A more elaborate series of similar experiments has already been recorded by Burnet.[5]

Our own experiment was as follows: In September, 1936, a nasal washing was obtained from an individual with a typical acute head cold of less than 24 hours' duration. The washing was passed rapidly through a Seitz filter, and concentrated to one-fourth its original volume by vacuum distillation. Two-tenths cc. of this bacteria-free filtrate, almost immediately after its isolation from the human source, were inoculated into the chorio-allantoic membranes of 12-day chick-embryos according to the technic described by previous authors. At the end of 2 or 3 days the membranes were removed and ground up with non-toxic broth so as to make a suspension of approximately 20%; 0.2 cc. of this were inoculated into each of a second series of eggs. Similarly these membranes were ground up and inoculated into a third. It is noteworthy that the small opaque foci visible on the membranes and which Burnet[5] described as resulting from the cultivation of influenza virus were also observed by us. A 20% suspension of the third-passage membranes was used to test for the presence of active virus. Human volunteers were used and the technic of intranasal inoculation under conditions of strict quarantine has been previously described.[2] In the present experiment, 2 volunteers were employed for inoculation. They had been in quarantine for a week prior to the test, during which time they had received 2 inoculations of an old culture of the virus of common cold. This material proved to be non-infective. The intensity and duration of symptoms in Volunteer No. 125

TABLE I.

Volunteer No. 125.

Date—1936	Sept. 11 to Sept. 18	19	20	21	22	23
Nasal obstruction	0	++	±	++	±	±
Sneezing	0	+	±	±	0	0
Nasal discharge	0	+	+	++	+++	+
Cough	0	++	++	+++	++	+
Sore throat	0	+	+	+	±	0
Headache	0	0	0	0	0	0
Anorexia	0	0	±	±	0	0
Throat	pale	slightly red	red	edema		red

Inoculation on Sept. 18.

± = mild.
\+ = moderate.
++ = marked.
+++ = severe.

[4] Smith, Wilson, *Brit. J. Exp. Path.*, 1935, **16**, 508.

[5] Burnet, F. M., *Brit. J. Exp. Path.*, 1936, **17**, 282.

produced by inoculation of the third-passage chorio-allantoic membrane are shown in Table I.

Volunteer No. 124 began to cought at 9 P. M. on the evening of the day of inoculation. The next morning the cough was worse, and he had a considerable degree of watery coryza and a slight soreness of the throat. Symptoms increased in intensity on the day following, remained about the same for another 24 hours, and were considerably abated on discharge 5 days after inoculation. Almost the identical series of events occurred with Volunteer No. 125, except that in his case, cough was more marked at the onset, and coryzal symptoms did not reach their maximum until 4 days after inoculation. Both men declared they had experienced head colds of full average severity; no constitutional symptoms of the influenzal type, such as general malaise and fever, were noted.

In summary, then, freshly obtained virus-containing material from a human cold was implanted on the chorio-allantoic membrane of the developing chick-embryo and passed through a series of 3 eggs. Material from the third series of eggs when tested on 2 human volunteers by intranasal inoculation produced in each instance a typical experimental cold. Dilution of the original material inoculated was so great that it seems unlikely that infection was due to the survival of a sufficient amount in the active state.

8914 C

Immunization in Rats Against Trichinella Spiralis.

GEORGE W. BACHMAN AND JOSÉ OLIVER GONZÁLEZ. (Introduced by D. H. Cook.)

From the Department of Medical Zoology, School of Tropical Medicine, San Juan, Puerto Rico.

Attempts were made to immunize 35 white rats against *Trichinella spiralis* by way of the mouth.

These rats were formed into 3 groups, fed respectively on (1) trichina antiserum, (2) well-ground dehydrated trichina powder and (3) consecutive feedings of increasing doses of infested meat. A fourth group of 12 rats were injected intraperitoneally with varying amounts of Coca's alkaline suspension of trichina powder, as another possible method of protection against otherwise lethal doses of trichinous meat. Simultaneously, a series of normal rats were