

**Antipoliomyelitis Serum Production in the Horse.\***

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In a previous note<sup>1</sup> we reported our inability to demonstrate an antibody response in poliomyelitis refractory animals in any way comparable to that realized in monkeys. Although antisera produced in the guinea pig, rabbit, dog, sheep and goat in some instances inactivated an equal volume of a 5% suspension of virus tissue (cord and medulla) when these sera were employed in an undiluted form, previous dilution of the serum to 1-2 (after addition of virus suspension, 1-4) failed to render such a virus suspension non-infectious for monkeys. Essentially the same results were obtained with the serum of a horse, which at the time of the previous report (June, 1930) had been given 9 intravenous injections of 50 cc. (one injection 20 cc.) each of a 10% suspension of virus material (cord and medulla) over a period of 45 days. Since the horse represented a much later addition to our series of poliomyelitis refractory animals, virus injections have been continued to make the period of "immunization" more comparable to those of the sheep and goat, which received virus injections over a period of about a year. The results with the horse have, however, proven far more gratifying than in the case of the other poliomyelitis refractory animals. Titrations carried out recently on serum procured from the horse 8 months after the "immunization" was begun indicate that the serum is now capable of inactivating an equal volume of a 5% virus suspension in a final serum dilution of 1-60, which according to the recent observation of Shaughnessy, Harmon and Gordon<sup>2</sup> may equal, if not exceed the antibody titer of the average human poliomyelitis convalescent serum. The antibody titer is not as high as that of some of the hyperimmunized poliomyelitis convalescent monkey sera we have titrated (1-128), but we anticipate that with further immunization of the horse the titer may rise to a higher level. It should be added that the *normal* serum of this animal neutralizes equivalent amounts of the virus in a final serum dilution of 1-2, but not in a serum dilution of 1-4.

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<sup>1</sup> Schultz and Gebhardt, *PROC. SOC. EXP. BIOL. AND MED.*, 1930, **28**, 31.

<sup>2</sup> Shaughnessy, Harmon and Gordon, *J. Prev. Med.*, 1930, **4**, 459.

The results, therefore, indicate that different species of refractory animals differ widely in their responsiveness as antibody producers against this particular virus. Different members of the same species may also vary widely in this respect. Fairbrother and Morgan,<sup>3</sup> for example, have noted that the responsiveness of two horses "immunized" with poliomyelitis virus differed greatly, one producing a good viricidal serum, the other not responding at all.

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## Occurrence of Infectious Myxomatosis in Southern California.

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During the summer of 1930 twelve reports from rabbitries in the regions of Santa Barbara, Ventura, and San Diego were made of a disease presenting the following symptoms. The rabbits were acutely ill and exhibited, as a rule, an oedematous condition in the regions of the nose and lips, the external genitalia and a conjunctivitis. A purulent discharge occurred from the eyes and nose. The ears also became greatly thickened and drooped as a rule. Animals that lived longer than a week or 10 days after the appearance of symptoms often developed nodules around the nose, eyes, or on the ears. Upon autopsy, the lymph nodes and spleen were found usually to be enlarged. The nodules and oedematous areas were found to contain a gelatinous material.

The disease was transmitted with facility by rubbing the discharge from the eyes and nose, or the extract from tissues, into the skin, or by injecting the same. Comparison of the above findings with reports of Hobbs,<sup>1</sup> Rivers<sup>2</sup> and others who have studied infectious myxomatosis produced by the South American virus shows striking similarities, the chief difference being that the disease encountered in California is not transmitted with as great ease by contact among experimental animals as is the South American disease. First attempts to transmit the disease by filtrates passed through

<sup>3</sup> Fairbrother and Morgan, *Brit. J. Exp. Path.*, 1930, **9**, 298.

<sup>1</sup> Hobbs, J. R., *Am. J. Hyg.*, 1928, **8**, 800.

<sup>2</sup> Rivers, T. M., *J. Exp. Med.*, 1930, **51**, 965.