

lier that wild and domestic birds gave 30% positives, it was concluded that further study of the small mammals was less likely to be

productive of major results than the study of birds.

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Intraperitoneal Susceptibility of Suckling Mice to MEF1 Poliomyelitis Virus.* (19051)

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Casals and Olitsky have recently adapted the MEF1 strain (Lansing type) of poliomyelitis virus to suckling mice, and have demonstrated that a specific complement fixing antigen may be produced from the CNS of these animals(1-3). The present communication reports the results of experiments designed to determine the susceptibility of suckling mice to the intraperitoneal inoculation of this adapted MEF1 strain. The positive results obtained suggest the possibility that this may provide a useful and sensitive method of determining the antibody content of various

agents used to confer passive protection. Preliminary experiments employing gamma globulin tend to bear this out.

Materials and methods. The suckling mouse adapted strain of MEF1 virus (54th passage) was made available to us through the kindness of Dr. Casals and was maintained in our laboratory by intracerebral passage in 3-day-old mice which were sacrificed when moribund or paralyzed. The brains and spinal cords were harvested and pooled; the titer of the resulting suspensions varied from $10^{-3.5}$ to $10^{-4.4}$ when titrated in 3-4-week-old mice

TABLE I. Mortality of Mice of Various Ages Inoculated with .05 ml or .1 ml of 10^{-1} Virus Dilution by the Intraperitoneal Route.

Age, days	Mortality ratio of mice					Total	Total % mortality
	Exp. 1	2	3	4	5		
1	2/16*					2/16	13
2	1/7	2/12				3/19	16
3	1/5	9/22				10/27	37
5	8/11	5/20	22/38	20/30		80/160	50
6	6/15	19/46					
7	7/12	3/5					
8	3/4					3/4	—
9		4/9				4/9	44
13					5/9	5/9	56
15					3/3	3/3	—
16					6/19	6/19	32
19					5/20	5/20	25
21-28	1/32	0/16				1/48	2
Mouse passage	60	54, 56, 60	59	59	60		
I.P. inoculum (ml)	.1†	.05	.1	.1	.1		
I.C. titer		$10^{-4.4}$	$10^{-3.7}$	$10^{-3.5}$	10^{-4}		

* Numerator/denominator = No. deaths/No. inoculated.

† Mice 1 and 2 days old given only .05 ml of virus suspension in Exp. 1.

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1. Casals, J., and Olitsky, P. K., *Proc. Soc. Exp. Biol. and Med.*, 1950, v75, 315.

2. Casals, J., Olitsky, P. K., and Anslow, R. O., *J. Exp. Med.*, 1950, v94, 111.

3. Casals, J., Olitsky, P. K., and Anslow, R. O., *J. Exp. Med.*, 1951, v94, 123.

TABLE II. Intraperitoneal Titration of MEF₁ Virus in Mice 6 Days of Age.

Virus dilution	Mortality ratio of mice			Total % mortality
	Exp. 1*	Exp. 2†	Total	
10 ⁻¹	11/12	20/30	31/42	74
10 ⁻²	2/12	0/6	2/18	11
10 ⁻³	1/12	—	1/12	8.3
10 ⁻⁴	2/12	—	2/12	16.7

* Intracerebral titer in 3-4-week-old mice: 10^{-4.4}; suckling mouse passages 54, 56, 60, pooled. Intraper. inoculum: .05 ml.

† Intracerebral titer in 3-4-week-old mice: 10^{-3.5}; suckling mouse passage 59. Intraper. inoculum: .1 ml.

by the intracerebral route of inoculation. The CFW strain of Swiss mice was employed. Mice of various ages (suckling and weaned) were inoculated intraperitoneally with 0.05 or 0.1 ml of a 10% suspension of virus, and were observed for paralysis and death over a 21-day period. Considerable variability in the susceptibility of individual litters was noted in the first experiment; this was partially controlled in later ones by pooling all the suckling mice used in a given experiment and redistributing them at random to the mothers.

Results. Table I presents the results of

5 experiments testing the susceptibility of mice of various ages to intraperitoneal inoculation. Although mice 1 to 3 days old were comparatively resistant the fatality rate in animals from 4 to 14 days of age inclusive varied from 50 to 75%. Beyond the age of 15 days susceptibility fell off again. The majority of deaths occurred between the 4th and 10th days after inoculation, regardless of the age of the mouse.

In Table II are presented the results of 2 titrations carried out by the intraperitoneal route. Only scattered irregular deaths occurred in mice inoculated with dilutions higher than 10⁻¹.

Summary. Suckling mice 4-15 days old inclusive are susceptible (50-75% mortality) to the intraperitoneal inoculation of a 10% brain-cord suspension of the suckling mouse adapted MEF₁ strain of poliomyelitis virus. Considerable variation in the susceptibility of individual mice of a given age was observed. The possible usefulness of this technic in passive protection studies employing gamma globulin or other agents is pointed out.

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Effect of Anti-histaminics on Experimental Nephritis in Rabbits. (19052)

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Acute nephritis may be produced in rabbits by the injection of duck serum containing antibodies against rabbit kidney. This reaction was first studied by Masugi(1,2). The exact mechanism is not clear. The antibodies of the anti-rabbit-kidney serum (NTS) are fixed promptly in the kidneys(3), nephritis

developing after a latent period of 6-8 days. Kay(4,5) demonstrated that the onset of nephritis was coincident with the appearance of antibodies against duck serum.

Reubi(6,7) has reported the successful modification or prevention of this pathological change by the administration of anti-histaminics.

Methods. Dutch type, 1-2 kg rabbits and

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1. Masugi, M., *M. Beitr. path. Anat. u. allg. Path.*, 1934, v92, 429.

2. Masugi, M., *M. Beitr. path. Anat. u. allg. Path.*, 1933, v91, 82.

3. Sarre, H., *Deutsch. Med. Woch.*, 1939, v65, 1661.

4. Kay, Calvin, *J. Exp. Med.*, 1940, v72, 559.

5. Kay, Calvin, *Am. J. Med. Sci.*, 1942, v204, 483.

6. Reubi, F., *Helvet. Med. Acta.*, 1945, v12, 547.

7. Reubi, F., *Helvet. Med. Acta.*, 1946, v13, (Suppl. 18) 1-50.