

not known, but preliminary experiments with 21-day-old mice indicate that the blanket motion is markedly inhibited in certain areas in these mammals after deprivation.

Summary. A striking depression in rate of flow of the nasal mucous blanket was observed in 4 water-deprived herring gulls, in contrast to 10 normally hydrated gulls. The observation was repeated in a series of 20 water-deprived and 10 normally hydrated chickens. In both species normal mean rate of flow was about 10 mm/minute. Two gulls and 2 chickens that were deprived then rehydrated showed a normal rate of motion of the blanket. Anchoring of the mucous sheet to the mucosal surface by fine strands of mucus was seen in whole mounts and histo-

logical sections of conchae of dehydrated baby chicks.

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Sensitivity to Estrogen of Uteri of Ovariectomized Mice in Relation to Age.* (26389)

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It has been reported(1,2) that sensitivity to gonadal hormones of accessory reproductive organs of gonadectomized male and female rats increases with advancing age reaching a peak at age when the animals, if intact, would have reached puberty. Sensitivity then decreased with age. The object of the present investigation was to determine sensitivity to estrogen of uteri of several strains of ovariectomized mice in relation to age.

Materials and methods. Forty mice selected from inbred strains and F₁ hybrids (A/Jax, C57BL/6, BALB/c, and BAF₁) served as intact controls to observe age at opening of vaginal orifice and at onset of estrous cycle.

Groups of mice from each strain were ovariectomized on day 21. A total dose of 0.5 µg estradiol benzoate in 0.1 ml sesame oil was divided into 2 equal portions which

were injected subcutaneously at 24 and 16 hours prior to autopsy. Ovariectomized control mice were treated similarly with sesame oil alone. Autopsy was performed at 24, 34, 40, 46, 52, 58, 64, or 70 days of age. At autopsy uteri were weighed immediately after they were freed from mesometrium, vagina, and uterine tubes and were pressed gently between filter paper. Sensitivity to estrogen of uteri of ovariectomized mice were judged by percentage increase in weight of uteri above appropriate ovariectomized controls and by absolute uterine weight.

Results and discussion. Opening of vaginal orifice was found at about 37 days of age in A/Jax, C57BL/6, and BAF₁ mice and at about 28 days of age in BALB/c mice. Onset of estrous cycle in each of 4 strains of mice occurred about 10 days after opening of vaginal orifice.

Uteri of ovariectomized immature mice did not show prepubertal subnormal growth (Table I) as was seen in ovariectomized im-

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TABLE I. Effect of 0.5 μ g Estradiol Benzoate on Uterine Weight of Ovariectomized Mice.

Age, days	Treatment	A/Jax			BAF ₁			C57BL/6			BALB/c		
		No. of mice	Uterine wt, mg*	PI	No. of mice	Uterine wt, mg*	PI	No. of mice	Uterine wt, mg*	PI	No. of mice	Uterine wt, mg*	PI
24	Estrogen Controls	9	20.0 $\pm$ 1.3	327.8	9	15.9 $\pm$ 1.0	324.4	9	16.3 $\pm$ 1.3	276.2	9	16.9 $\pm$ 1.0	312.9
		6	6.1 $\pm$.5		6	4.9 $\pm$.4		6	5.9 $\pm$ 1.1		6	5.4 $\pm$.1	
34	Estrogen Controls	8	13.1 $\pm$ 1.3	285.0	8	11.6 $\pm$.6	269.7	5	9.9 $\pm$ 1.0	241.4	8	11.5 $\pm$.4	280.4
		6	4.6 $\pm$.1		6	4.3 $\pm$.1		4	4.1 $\pm$.7		9	4.1 $\pm$.3	
40	Estrogen Controls	8	13.9 $\pm$ 1.3	278.0	8	8.1 $\pm$.2	213.2	5	8.4 $\pm$ 1.4	227.0	17	9.2 $\pm$.4	235.9
		6	5.0 $\pm$.1		5	3.8 $\pm$.2		3	3.7 $\pm$.2		10	3.9 $\pm$.1	
46	Estrogen Controls	8	12.0 $\pm$ 1.0	244.9	7	9.4 $\pm$.3	218.4	3	8.2 $\pm$.6	227.7	5	10.0 $\pm$.9	232.5
		6	4.9 $\pm$.2		6	4.0 $\pm$.4		3	3.6 $\pm$.1		5	4.3 $\pm$.3	
52	Estrogen Controls	6	8.1 $\pm$ 1.0	235.3	6	6.8 $\pm$.4	188.8	5	6.9 $\pm$.6	230.0	5	8.7 $\pm$ 1.3	193.3
		4	3.4 $\pm$.4		3	3.6 $\pm$.1		3	3.0 $\pm$.1		5	4.5 $\pm$.1	
58	Estrogen Controls	8	9.4 $\pm$.3	229.6	8	7.7 $\pm$.5	208.1	6	7.0 $\pm$.7	226.0			
		6	4.1 $\pm$.2		4	3.7 $\pm$.6		4	3.1 $\pm$.6				
64	Estrogen Controls	4	10.2 $\pm$ 1.0	261.5	5	6.7 $\pm$.5	172.0	4	6.2 $\pm$.8	221.4			
		5	3.9 $\pm$.4		4	3.9 $\pm$.5		4	2.8 $\pm$.2				
70	Estrogen Controls	9	9.0 $\pm$.5	250.0	9	6.9 $\pm$.1	202.9	4	6.1 $\pm$.5	196.7			
		7	3.6 $\pm$.1		6	3.4 $\pm$.1		5	3.1 $\pm$.2				

* Uterine weights are means and stand. errors.

PI = % increase in uterine wt above appropriate control.

mature rats. Uterine weights of ovariectomized mice decreased with increase in age, probably due to the fact that estrogenic hormone had been secreted from the mice ovaries before these organs were removed on day 21.

Sensitivity to estrogen of uteri of ovariectomized immature mice did not increase at about the age of expected puberty in comparison to those of ovariectomized rats. The absolute uterine weights as well as the percentage increase in weights of estrogen treated mice uteri above those of the appropriate controls were less with increase in age (Table I). Species differences are probably a partial explanation for the contrasting results.

Summary. Uteri of ovariectomized immature mice did not show subnormal growth. No increase in uterine sensitivity to estrogen was observed at about the age of expected puberty in comparison to those of ovariectomized immature rats.

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