TABLE I.
Showing Complement-fixation Tests with Albany Strains of Coxsackie Virus.

Antigen	Serum					
	Type I brain	Type I limb	Type II brain	Type II limb	Normal	Western equine
Type I limb	0	1/16	0	0	0	0
Type I brain	0	0	0	0	0	0
Type II limb	0	0	1/2	1/32	0	0
Normal limb	0	0	0	0	0	0
Western equine brain	0	0	0	0	0	1/64

Fractions represent the highest dilution of serum showing 2+ or better complement fixation; in the test, serum was diluted 2-fold beginning with 1:2 dilution.

sackie-virus sera or antigens and unrelated virus or apparently normal materials.

Summary. Two Albany strains of Coxsackie virus, Type I (T.T.) and Type II (Fleetwood) were found to be negative for hemagglutination when human O, sheep, chick, and guinea pig erythrocytes were used. On the other hand, the viruses showed distinct positive specific complement fixation without any cross reaction between them. Antigens prepared from infected brain tissue were inactive; those from infected limb tissue were highly active. Tests with human sera and limb-tissue antigens are left for further study.

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The Pituitary-Adrenal Relationship in the Infant Rat. (17525)

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The administration of adrenocorticotrophic hormone (ACTH) to the rat or guinea pig results in an almost immediate fall in adrenal ascorbic acid content and a more gradual decline in adrenal cholesterol.(1,2) This has been correlated with evidence of adrenal cortical secretion.(3) It had been previously demonstrated by Selye(4) that exposure to stress or the injection of noxious substances causes the secretion of ACTH by the adenohypophysis of the intact animal. Exposure of animals to these same conditions causes a depletion of adrenal ascorbic acid in the intact animal but not in the hypophysectomized animal.(5) The purpose of this investigation was to determine whether the newborn rat could respond to stress and the administration of ACTH in a manner similar to that of the adult.

Infant rats at 2, 4, 6, 8 and 10 days of age were injected with 0.04-0.05 mg of aqueous epinephrine and the adrenals removed one to two hours later. In all, 170 rats from 27 litters were used in this study. Adrenal ascorbic acid was determined by the method of Roe and Kuether.(6) It was found that no decrease in adrenal ascorbic acid occurred until

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TABLE I.
Effect of Administration of Epinephrine and Refrigeration on Adrenal Ascorbic Acid Content.

	ascorbic acid, % of control value	
Age, days	Epinephrine	Refrigeration
2	93	
4	98	95
6	91	101
7		105
8	69	
10	66	
11		105
14		107
16		83
25		81
Adult	62	

TABLE II.
Effect of 2.5 Mg ACTH on Adrenal Ascorbic Acid Content.

Age, days	ascorbic acid, % of control value
4	66
6	64

the animals had reached 8 days of age. (Table I). Exposure of animals to refrigeration (5°C) for 2½ hours similarly did not result in a decline in the ascorbic content until the 16th day of life. With this stress the fall in ascorbic acid was 19% or approximately one-half of that with epinephrine (Table II).

Since very young rats do not respond to stress, it was necessary to further localize the point of insensitivity, *e.g.*, the pituitary or adrenal. Therefore, rats of 4 and 6 days of age were injected intraperitoneally with 2.5 mg† ACTH and killed 80-120 minutes later. Ascorbic acid analysis of the adrenals revealed a 34-36% decline in the vitamin C content under these conditions (Table II).

It would appear from these results that the fall in adrenal ascorbic acid in the newborn rat does not occur as a result of exposure to stress at it does in the adult animal. Since the adrenals are capable of responding to the administration of ACTH at this age, it is probable that the adenohypophysis is the organ which is not capable of responding to stress by secreting ACTH until the animal has reached a certain state of maturation.

Summary. The administration of epinephrine to the infant rat does not result in a fall in adrenal ascorbic acid until the animal reaches the eighth day of life. Under the conditions of the experiment, adrenal ascorbic acid does not decline as a result of refrigeration until the 16th day of life. The administration of ACTH, on the other hand, causes adrenal ascorbic acid depletion on the 4th and 6th day of life.

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Labeling of Rat Hemoglobin with Radioactive Iron.* (17526)

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In the studies of the biological aspects of iron metabolism, radioactive iron serves as a suitable means of following, *in vivo*, transformations of forms of iron. Especially valuable is its use in tagging hemoglobin molecules so that, under certain conditions, hemoglobin iron, hemoglobin molecules or red cells may be identified as they undergo certain chemical or physical changes. The current methods(1-7) used for incorporating

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