

In general the adult pregnant female weighing 3-3.5 K. has thyroids weighing (fresh) 0.20 g. to 0.30 g. While thyroid hyperplasia has not yet been found in pregnant cats, it is a striking fact that mothers with relatively large thyroids give birth to kittens with relatively large thyroids and *vice versa*. The following figures may be cited as typical:

	Ratio of thyroid to body weight.	
	Mother.	Kittens.
No. X.....	1-16,250	1-7,326
No. IV.....	1- 4,680	1-2,000

The results so far point to the following conclusions:

1. Active thyroid hyperplasia is not associated with hypersecretion of the thyroids, because hypersecretion of the thyroids in the mother would retard rather than augment thyroid growth in the fetus.

2. Since fetal goiter is always present in the offsprings of mothers with active thyroid hyperplasia, and never present in the offsprings of mothers with normal thyroids or colloid goiter, it would seem that the fetal goiter is not due primarily to the condition of the germ cells, but to some intoxication of the mother or altered condition of the maternal metabolism. Since the maternal environment acts on the fetus only by the way of the blood, the goiter must be due to substances in the blood acting alike on the fetal and the maternal thyroid to produce cell division and growth, rather than specific thyroid differentiation and secretion. This hyperplasia is therefore not compensatory.

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Parathyroid tetany and active immunity.

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Parathyroid tetany in dogs seems to be associated with diminished resistance to bacterial invasion of the mucous membranes, as shown by the frequent infection of the eyes, the nose, and the respiratory passages. This diminished resistance may be due to (1) depression of the processes of active immunity; (2) local de-

pression of the cells of the mucous membranes; (3) disturbance of the body heat regulating mechanism. It is also possible that all three factors are involved.

In order to determine whether the first possibility is a factor, dogs were immunized at varying periods before and after parathyroidectomy, and the influence of the tetany condition on the immunity reaction noted. The particular antibody studied was the lysin developed by the injection of goat erythrocytes into dogs. The immunizing dose consisted of a single intravenous injection of 1 c.c. of a 10 per cent. suspension of goat corpuscles per kilo body weight of dog.

The results so far obtained show that *the active immunity is decreased by the condition of parathyroid tetany*. None of our dogs developed lysin to goat corpuscles to the degree observed in the series of normal dogs reported by Hektoen and Carlson, and by Luckhardt and Becht.¹ The greatest concentration of the specific lysin in our tetany dogs was represented by a serum dilution of 1-8,000; the lowest concentration by a serum dilution of 1-400. Two typical experiments may be cited:

Dog V.	Nov. 1.	No lysis in 1-50.	Complete thyroidectomy.
	Nov. 2.	No lysis in 1-50.	13 c.c. goat corp. susp. inj.
	Nov. 3.	No lysis in 1-50.	No tetany.
	Nov. 4.	No lysis in 1-50.	Strong tremors.
	Nov. 5.	Lysis in 1-50.	No tetany.
	Nov. 6.	Lysis in 1-400.	Tetany.
	Nov. 7.	Lysis in 1-1,600.	Violent tetany.
	Nov. 8.	Lysis in 1-2,000.	Strong tetany.
	Nov. 9.	Lysis in 1-2,000.	Tetany and depression.
	Nov. 10.	Lysis in 1-2,000.	Tremors and depression (died).
Dog VI.	Nov. 2.	No lysis in 1-50.	11 c.c. goat corp. susp. inj.
	Nov. 3.	No lysis in 1-50.	
	Nov. 4.	No lysis in 1-50.	Complete thyroidectomy.
	Nov. 5.	Lysis in 1-50.	Dog seems normal.
	Nov. 6.	Lysis in 1-400.	Tremors.
	Nov. 7.	Lysis in 1-1,000.	Mild tetany.
	Nov. 8.	Lysis in 1-1,600.	Violent tetany.
	Nov. 9.	Lysis in 1-2,000.	Violent tetany, depression.
	Nov. 10.	Lysis in 1-4,000.	Tetany and depression.
	Nov. 11.	Lysis in 1-4,000.	Tremors and depression (died).

¹ Hektoen and Carlson, *Jour. of Inf. Dis.*, 1910, VII, p. 319; Luckhardt and Becht, *Am. Jour. of Physiol.*, 1911, XXVIII, p. 257.