composed not only of lecithin, but also of cephalin, oil, phytosterol, inositol, and carbohydrates as well.

The inference that the hypercholesterolemia resulting from the feeding of egg yolk powder was partially due to its lecithin content[1] is not supported by these experiments. On the contrary, "soya lecithin" has been found to lower the serum cholesterol level not only in people on a normal diet but also in rabbits on a high cholesterol regime.[4]

Since this article was prepared Gross and Kesten[5] have reported that the feeding of "soya lecithin" was effective in reducing the hypercholesterolemia in all of 3 patients. The diagnosis in 2 of these individuals was xanthomatosis. Necrobiosis lipoidica diabeticorum was the stated diagnosis in the third patient. Adlersberg and Sobotka[6] have also shown that the elevated serum cholesterol of 5 patients with xanthomatosis was lowered by "soya lecithin" feeding.

Summary. (1) Twenty-five grams of "soya lecithin" were fed to 8 patients for 6-week periods. (2) The serum cholesterol level in each instance was lowered significantly. The decline was maintained for only 5 weeks despite the maintenance of the "soya lecithin" regime. (3) The induced hypocholesterolemia was not associated with an increase in the basal metabolism.

5 Gross, P., and Kesten, B., *Arch. Derm. and Syph.*, 1943, **47**, 159.

6 Adlersberg, D., and Sobotka, H., *J. Mt. Sinai Hosp.*, 1943, **9**, 955.

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Effect of Adrenotropic Hormone on Ascorbic Acid and Cholesterol Content of the Adrenal.*

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In a previous report (Sayers, Sayers, White, and Long[1]) it was shown that a single dose of pure adrenotropic hormone markedly depletes the cholesterol content of the adrenal to about 50% of its normal value in the space of 3 hours. The alterations in the ascorbic acid content of the adrenal that follows the administration of adrenotropic hormone have now been determined.

The animals used were 24-day-old male rats of the Yale strain. They were obtained from the Biochemical Laboratory of the Connecticut Agricultural Experiment Station through the courtesy of Dr. Rebecca Hubbell. Pure adrenotropic hormone was prepared according to the method of Sayers, White and Long.[2] The hormone was injected intraperitoneally as an aqueous solution in a volume of 0.5 ml. At the end of the experimental period the animals were anesthetized with nembutal, the adrenals removed and weighed to the nearest 0.1 mg on a torsion balance. The ascorbic acid content of the adrenals was determined by the method of Bessey[3] and the cholesterol content by the method of Schoenheimer and Sperry as described by Sperry.[4]

The changes which take place in the ascorbic acid and cholesterol content of the adrenals following the injection of a single dose of pure

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1 Sayers, G., Sayers, M. A., White, A., and Long, C. N. H., PROC. SOC. EXP. BIOL. AND MED., 1943, **52**, 200.

2 Sayers, G., White, A., and Long, C. N. H., *J. Biol. Chem.*, 1943, **149**, 425.

3 Bessey, O. A., *J. Biol. Chem.*, 1938, **126**, 771.

4 Sperry, W. M., *Am. J. Clin. Path., Tech. Suppl.*, 1938, **2**, 91.

TABLE I.
Effect of Adrenotropic Hormone on Cholesterol and Ascorbic Acid Content of Adrenals of 24-day-old Rats.

Interval between administration of adrenotropic hormone (4 mg/100 g body wt) and removal of adrenals	Adrenal cholesterol		Adrenal ascorbic acid	
	No. rats	mg per 100 mg fresh tissue	No. rats	mg per 100 g fresh tissue
Controls	45	3.03 ± 0.08*	8	314.2 ± 6.1
20 minutes	—	—	5	212.6 ± 6.1
1 hour	6	2.62 ± 0.24	5	134.2 ± 6.9
3 "	27	1.57 ± 0.07	5	141.3 ± 11.3
6 "	8	1.71 ± 0.08	5	237.0 ± 15.2
9 "	8	1.80 ± 0.11	5	293.9 ± 6.1
12 "	4	1.98 ± 0.24	4	327.7 ± 16.6
24 "	7	3.06 ± 0.19	2	351.4

*Mean and standard error.

adrenotropic hormone are shown in Table I, The cholesterol data are an extension of those previously reported.[1]

It will be observed that the hormone produces a prompt decrease in the ascorbic acid content of the adrenal so that within 20 minutes the level is reduced to two-thirds its initial value. The maximum decrease is reached in 1 hour but it remains at a low level for 2-3 hours and returns to its initial level some 9 hours later.[1] Twenty-four hours after the injection of hormone the ascorbic acid concentration may be slightly greater than normal. The decrease in adrenal cholesterol is at a slower rate, the maximum being reached in 3 hours and it does not return to normal until a period somewhere between 12 and 24 hours after hormone administration. It appears that both the initial depletion and subsequent recovery occur sooner in the case of ascorbic acid than of cholesterol.

The marked change which takes place in adrenal cholesterol following the administration of adrenotropic hormone suggests that this substance is concerned with the synthesis of cortical hormone. The present findings indicate that ascorbic acid is also involved in this process. Giroud *et al.*[5] have already reported that cortical hormone synthesis is dependent upon the presence of vitamin C in the adrenals. Comparable studies are now being made in the guinea pig, an animal which cannot synthesize ascorbic acid.

Summary. A single dose of pure adrenotropic hormone diminishes both the ascorbic acid and cholesterol content of the adrenals. The level of ascorbic acid is reduced to two-thirds within 20 minutes and one-half of its normal value in one hour. It has again returned to its initial concentration 9 hours after hormone administration. On the other hand the maximum decrease in cholesterol is not reached until 3 hours after injection and its restoration also occurs at a slower rate. It is suggested that the two processes may be related to cortical hormone synthesis in or release from the adrenal gland.

[5] Giroud, A., Santa, N., Martinet, M., and Bellon, M. T., *C. R. soc. biol.*, 1940, **134**, 100.