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Blood Cholesterol in Experimental Hypo- and Hyperthyroidism.*

J. J. WESTRA AND M. M. KUNDE.

From the Departments of Physiology and Medicine, University of Chicago.

Changes in blood cholesterol in both clinical and experimental hypo- and hyperthyroidism have been reported recently by several workers. Briefly stated, hypothyroidism is accompanied by an increased blood cholesterol; hyperthyroidism by a decreased blood cholesterol.

This study was undertaken to confirm these findings in experimental hypo- and hyperthyroidism in rabbits, and to see if any correlation exists between cholesterol changes and changes in the number of red blood cells and Hb.

The technique for preparing cretin rabbits has been previously cited.[1] Blood counts were made in the usual way; Hb was determined colorimetrically[2] and is expressed in gm. per 100 cc. blood. Cholesterol was determined on whole blood by Sackett's[3] modification of Bloor's method. All determinations were done in duplicate.

Three cretin and 6 normal animals were used in the first series. These were fed from 0.318 to 0.59 gm. desiccated thyroids daily for 2 or 4 weeks. Thyroid feeding caused a decrease in the blood cholesterol of all rabbits of this series, but this decrease is not accompanied by a consistent change in the number of red blood cells or in Hb.

A second series was studied, using 2 cretins and 4 of the animals in series I. After thyroid feeding, the losses of weight and the decrease in blood cholesterol of the 2 cretins are almost identical. There is no corresponding change in red blood cells and Hb. In the 4 normal animals, the weight loss is again roughly uniform, but again, there is no corresponding change in cholesterol and in red blood cells or Hb.

The results of these experiments seem to indicate that the changes in blood cholesterol which follow thyroid feeding in both cretin and normal rabbits, show no correlation with changes in the number of red blood cells, or the amount of Hb.

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[1] Kunde, M. M., *et al.*, *Am. J. Phys.*, 1927, **82**, 630.

[2] Newcomer, H. S., *J. Biol. Chem.*, 1923, **55**, 569.

[3] Sackett, G. E., *J. Biol. Chem.*, 1925, **64**, 203.