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Cholesterol Esters of the Blood in Experimental Pancreatic Diabetes.*

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Bloor *et al*[1] found that the esterified cholesterol in plasma of diabetic patients was slightly higher than normal. It seemed of interest, therefore, to record some preliminary observations on the postabsorptive blood cholesterol of completely depancreatized dogs that have been maintained in this laboratory for varying periods of time by means of insulin and a suitable diet.

The oxidative procedures of Okey[2] have been used for cholesterol determinations. The treatment of these animals has been reported elsewhere.[3] Blood cholesterol determinations on 3 normal dogs are also recorded. Dog 4, normal, is a litter mate of dog 1, diabetic;

TABLE I.
Postabsorptive Whole Blood Cholesterol

Dog	Total mg. per 100 cc.	Cholesterol Free mg. per 100 cc.	Ester mg. per 100 cc.	Ester as % total
1 Airdle Female diabetic	102	95	7	7
2 Wht-c-Brn-Hd Female diabetic	101	102	0	0
3 Brownie Female diabetic	100	97	3	3
4 Airdle Female normal	163	123	40	25
5 Blk Female normal	183	126	57	31
6 1-N-1 Male normal	137	104	33	24

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[1] Bloor, W. R., Buckner, E., Gibbs, C. B. F., PROC. SOC. EXP. BIOL. AND MED., 1932, **30**, 63.

[2] Okey, R., *J. Biol. Chem.*, 1930, **88**, 367.

[3] Chaikoff, I. L., and Lachman, G. S., PROC. SOC. EXP. BIOL. AND MED., 1933, **31**, 237.

both of these animals have been maintained on the same diet since September 1, 1931, when dog 1 was depancreatized. Dog 5, normal, and dog 2, diabetic, are also litter mates, both of these animals having received the same diets since July 27, 1932, the day on which the latter was depancreatized. The third dog, 1-N-1, was kept on the diet for approximately one month before blood samples were taken.

Typical results are shown in Table I. There is a marked reduction of the ester cholesterol of the fasting blood of depancreatized dogs. Esterified cholesterol was completely absent from the blood of diabetic dog 2. Further investigations to determine the time of onset of these lipid changes following pancreatectomy are in progress.

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Accumulation of Ions. Further Proof of Non-Equilibrium Condition in Valonia.*

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In a previous paper[1] I reported that when living cells of *Valonia macrophysa* were immersed for periods of 2-3 days in sea water to which had been added isotonic NaCl solution (10-50% by volume) there occurred an increase in the concentration of potassium and a decrease in that of sodium relative to that of chloride. Since these changes were in the direction opposite to those made in the composition of the external medium, it was concluded that this experiment furnished *crucial* proof that the normal condition in *Valonia* was not an equilibrium state. The validity of the data has been doubted by Cole on statistical grounds,[2] and by Jacques and Osterhout on

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[1] Brooks, S. C., *Protoplasma*, 1929, **8**, 389.

[2] Cole, K. C., *Collecting Net*, 1930, **5**, 32.