the inhibiting factor. In glucosamine the amino group is attached to the second carbon atom. There are other hexosamines in which the amino group is attached to the first, the third and the sixth carbon atom. These hexosamines are being prepared and the action of bacteria on them will be investigated.

5686

Effect of Diathermy on Concentration of Complement and Normal Opsonins.

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The increasing use of diathermy has augmented the need for greater knowledge of its effect upon the body. Such knowledge may aid in the elucidation of some controversial points in immunology since a temperature is produced without the injection of protein or other foreign substance. Nine cases of allergic asthma were treated with diathermy according to the method described by Neymann.[1] The investigation was limited to a study of the concentration of complement and natural opsonins, and the frequency and choice of time of procuring samples were restricted. The number of treatments was 1 to 4, the time of second treatment, 2 hours to 17 days, and the change in opsonic index in 10 cases was 0.1 to 0.4. Serum from a normal adult, the same throughout the experiment, was used as a control.

Complement concentration of the patient's serum was determined in the usual way employing sheep's red blood cells and rabbit anti-sheep cell serum with appropriate controls. The results of such tests demonstrated that no significant change in the complement content of the serum was effected by diathermy and such slight alterations as did occur are probably explainable by normal variation in complement or slight differences in the suspension of blood cells.

Opsonins. A modification of the opsonic test used by Tunnicliff[2] was selected as most applicable for the conditions and material at hand. A heat killed laboratory strain was used, leukocytes from a normal control and unheated serum from patients and control. The opsonic index was obtained by dividing the percentage phagocytosis

[1] Neymann, *J. Am. Med. Assn.*, 1931, **96**, 7.

[2] Tunnicliff, *J. Am. Med. Assn.*, 1926, **87**, 625.

occurring with patient's serum by that with the control serum. It is probable that the minimum significant difference by this method is 0.5. Therefore, with the possible exception of case III, the changes are not noteworthy.

Summary. Diathermy did not produce a significant change in complement concentration nor in opsonic index within the limits of this investigation. It is apparent that a complete report can come only from a large number of cases with frequent tests at selected times.

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Cholesterol and Bile Pigment Changes Incident to Diets Low in Protein.

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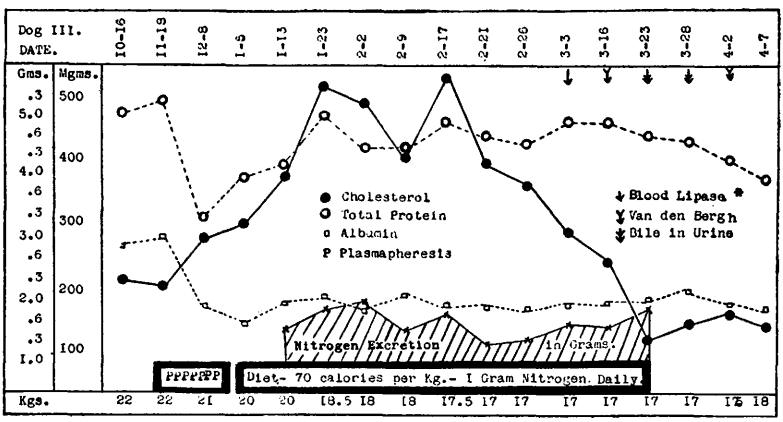
Variable elevations of blood cholesterol have been observed during the past 5 years both clinically and experimentally where nitrogen balance was disturbed. In order to determine the possible importance of nitrogen balance on cholesterol levels, 6 dogs were placed on diets adequate in regard to minerals, vitamines and calories, but deficient in nitrogen. The nitrogen was limited to 1 gm. per day per animal. On this diet the urinary nitrogen excretion



* Olive oil lipase.

CHART 1.