dition. The possible etiological bearing of the retention of creatinine is being considered from the standpoint of experimental nephritis.

Estimations of total solids, total nitrogen, chlorides, sugar, and cholesterol have been made in all our cases in addition to the above determinations. In our earlier estimations of creatinine, Shaffer's suggestions for the estimation of creatinine in dilute solutions were followed, but recently we have employed Folin's new method which has been found very satisfactory.

82 (899)

The significance of the non-protein nitrogen of the blood in experimental uranium nephritis.

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The increase in the non-protein nitrogen content of the blood in the experimental uranium nephritis of dogs may be due to:

1. *Diminished secretory activity of the kidney.* This is undoubtedly the case in those instances of severe nephritis in which the urinary nitrogen is diminished.

2. *Increased protein catabolism.* In poisonings of less intensity but sufficient to produce a nephritis of considerable severity as indicated by the albuminuria, there may be an increased amount of nitrogen in the urine as compared to the intake. In these instances the amount of non-protein nitrogen in the blood rises considerably. Such an increase, not being due to nitrogen retention on the part of the kidney, may be ascribed to an increased protein catabolism.

3. *Inspissation of the blood.* A polyuria, resulting in loss of water to the animal in this form of nephritis, may cause an apparent rise in the non-protein nitrogen of the blood.

4. *The chemical combination in which the non-protein nitrogen of the blood exists.* Animals with a certain degree of uranium nephritis are capable of putting out extremely high amounts of nitrogen in the urine. (A dog of 15 kilos daily eliminated 23 gm.

of nitrogen, half of which was given as urea, throughout a uranium nephritis without any retention.) This would seem to indicate that the increase in non-protein nitrogen of the blood in such animals is due in part to an abnormal chemical combination which can not pass the kidney and is not necessarily due to impaired kidney function.

Before ascribing an increase in the non-protein nitrogen of the blood in any form of nephritis to kidney insufficiency, the influence of all the above factors should be taken into account.

83 (900)

The influence of induced diabetes on malignant tumors (including a report of a case of human phlorhizin glycosuria).

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Experiments have been reported by Beebe and Van Alstyne showing that withdrawal of carbohydrates from the diet of white rats markedly inhibits the "taking" and rate of growth of transplantable malignant tumors in these animals. Cremer and Lockhead have recently shown that carbohydrate is utilized in the growth of tumor tissue in experimental tumor rats. As a development of the idea that utilization of glucose plays an important rôle in the synthesis of new protoplasm, we have carried out experiments upon rats planted with the "Buffalo sarcoma" in which the animals were placed upon a carbohydrate-free diet, and at the same time rendered diabetic through the injection of 0.2 gram doses of phlorhizin in olive oil once in two or three days.

As a brief summary of our results in this connection it may be stated that we have worked with about forty rats in all, so far, and that the results are so striking and constant as to warrant a positive statement that the production of the complete diabetes in experimental sarcoma rats is followed by retrogression and ultimate cure of the growth in every case where the growth at the