experimentally, increased the frequency of their occurrence. In the last few years we have found only one embryonal structure in the ovary of a guinea pig and this was in an animal which had been hysterectomized several weeks previously by Dr. R. J. Crossen in our laboratory. The fact that no intermediate stages between the early irregular segmentation of the ovum and the fully developed embryonal structures have been encountered so far, can easily be understood if we consider the rapidity with which the developing ovum passes through the early stages of development, it then stops when a certain critical stage has been reached at the period of the formation of neurula or embryonal placenta and trophoblast.

4790

A Reversible Experimental Uremia.

B. O. RAULSTON. (Introduced by T. Addis.)

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If the *vena cava* in ♀ albino rats is ligated and cut immediately above the entry of the renal veins there is a temporary cessation of renal function and the blood urea rises to very high levels. By the end of the second day a urine is voided which looks like water. It contains a high concentration of protein and many renal failure casts. Ninety day old rats were used. They were taken from the usual stock diet for the colony, operated upon and given only distilled water after the operation. Groups of 8 or 10 were sacrificed at intervals of from one to 6 days after the operation. The average concentration of blood urea, mgm. per 100 cc., on these various days was as follows: On the first day 268, on the second 413, on the third 278, on the fourth 63, on the fifth 55, and on the sixth 31. These rats excreted normally from 2 to 4 mgm. of protein in the urine in 24 hours but during the first and second days following the operation they excreted from 40 to 55 mgm. per 24 hours. Of the 57 rats used in this part of the work 2 died, giving a mortality of 3.5%. As controls similar animals had the same operative procedure carried out except that the *vena cava* was not ligated or cut, or it was ligated and cut immediately below the entry of the renal veins. The highest concentration of blood urea found in these animals was 34 mgm. per 100 cc., there was little or no increase in the amount of protein excreted, and none of them died.

This form of experimental uremia on account of its reversibility and the relative simplicity of its causation, is particularly adapted for the quantitative analysis of certain aspects of the general problem of uremia.

4791

The Crystals of the Follicular Ovarian Hormone.

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The first preparation of crystalline ovarian hormone[1] was obtained from a combination of 2 acidic aqueous solutions containing approximately 7500 rat units of a potency exceeding 1000 units per mgm. The aqueous solution (volume 480 cc.) was extracted with six 150 cc. portions of ethyl ether, the ether distilled and the flask evacuated to remove the last of the solvents. The residue was leached with small volumes of anhydrous ethyl ether, this solution centrifuged, poured into a flask and distilled to dryness. Owing to the danger of ether peroxides 1 cc. of ethyl alcohol was added and distilled using a vacuum to complete the removal of the alcohol. The flask was put in the refrigerator (—10° C.) and crystals began to appear within a short time. The weight of the crystals, which possibly were not absolutely pure, was 2.07 mg. Upon an additional purification the weight diminished to 1.39 mg.

Beginning with this initial crystallization, we have been able to convert all of our preparations into a crystalline form. Many individual preparations have been converted into the pure crystals. Several other products of a different crystalline form isolated during the course of preparation have proved to be inactive upon assay.

One interesting observation regarding the crystalline structure has been made. The pure hormone crystallizes in at least 2 distinct forms of crystals, a phenomenon which is not exceptional but which is encountered quite frequently.

[1] Announcement of this discovery was first made on August 23, 1929, at a scientific meeting of the Thirteenth International Congress. (*Am. J. Phys.*, 1929, xc, 329.) Lantern slides of the 2 crystalline forms were used to illustrate the 2 kinds of crystals, and the evidence regarding the identity of the hormone and the crystals presented.