

and allyl alcohol), is chiefly due to the presence of such a group, experiments were made (in Professor Ehrlich's laboratory) to determine whether this is the case with quinin. A number of derivatives in which the vinyl union was broken by the addition of H (hydroquinin), or of O and OH (oxyhydroquinin), or of H and Cl (hydrochlorquinin), were tested as to their toxicity upon various mammals and certain infusoria. The experiments showed that the presence of the vinyl group in quinin is without special significance as far as toxicity is concerned, the first two of the new compounds being about as poisonous as quinin itself. The results of the experiments with hydrochlorquinin are of special interest; these showed that the addition of H and Cl decreases the toxicity for mammals, while increasing it for infusoria. Thus the amount of hydrochlorquinin required to kill mice was two and a half times as much as that of quinin, while the former substance is distinctly more poisonous to certain infusoria than the latter. It is possible that hydrochlorquinin (or similar compounds) will be found to be more effective in the treatment of malaria than is quinin, and further work along these lines may result in the discovery of quinin derivatives which will be of use in certain diseases, caused by protozoa, in which quinin is of little value. Further experiments are in progress.

**35. "Report on the metabolism of a case of diabetes mellitus": ARTHUR R. MANDEL and GRAHAM LUSK.**

The case was in a young man, whose urine contained no albumin, little ammonia, only a small amount of aceton, and no  $\beta$ -oxybutyric acid. All these symptoms are said to justify a favorable prognosis. The patient was put on three different diets for three successive periods: Diet I. — Rich cream, oatmeal, meat, eggs, butter. Diet II. — Same as I, with 100 grams of levulose. Diet III. — Rich cream, meat, and eggs. The oatmeal was used on account of the favorable results obtained by von Noorden.

Diet III was practically a meat-fat diet. Upon this diet the polyuria decreased and the sugar fell from 8% to 4%, both of which phenomena would be favorably interpreted by the clinician. But on calculating the ratio between sugar and nitrogen

in the urine (after deducting the sugar fed in the cream), the relation between the two was found to be 3.65 gm. of dextrose to 1 gm. of nitrogen, as follows :

1904.	Dextrose. Grams.	Nitrogen. Grams.	D : N.
March 2.....	82.7	23.0	3.60 : 1
March 3.....	87.1	23.8	3.65 : 1
March 4.....	100.7	27.5	3.66 : 1

It will be noticed that the sugar and nitrogen rise and fall together. The amount of fat that was fed varied, but did not affect the ratio. The sugar production is therefore parallel to the proteid metabolism. Since 1 gm. of urinary nitrogen represents the destruction of 6.25 gm. of proteid we can calculate the sugar production from proteid. This D : N ratio is the same as that obtained in our laboratory in phlorhizinized dogs. It has also been obtained by others in the human subject, but has been falsely interpreted as indicating the production of sugar from fat. It represents the maximum output of sugar from proteid and a complete intolerance for carbohydrates. It is probably the most grievous prognostic sign in diabetes.

A calculation shows that the carbohydrates in the oatmeal and levulose were nearly quantitatively eliminated in the urine when the patient was under the influence of Diets I and II.

The patient rapidly lost in weight and died in coma five weeks after the completion of the above investigation.

**36. "Antihemolytic properties of the serum of nephrectomized rabbits," with demonstration : S. J. MELTZER and WILLIAM SALANT.**

In studying the properties of the blood of nephrectomized rabbits it was found that bullock's serum, which is distinctly hemolytic for normal rabbit's blood, was less so for the red cells of nephrectomized rabbits. It was found, further, that the serum of nephrectomized rabbits contains a distinct antihemolytic element which is destroyed by heating for an hour at 58° C. On the other hand the "washed" red cells of nephrectomized rabbit's blood are at least no more resistant to the hemolytic influence of bullock's serum than are the red cells of normal rabbit's blood.