SCIENTIFIC PROCEEDINGS

ABSTRACTS OF COMMUNICATIONS.

Ninetieth meeting.

Presbyterian Hospital, March 20, 1918.

President Gies in the chair.

157 (1335)

The rate of dialysis of diabetic blood-sugar.

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Fifteen or twenty c.c. of blood, rendered incoagulable by dry hirudin, were dialyzed in a very thin animal parchment bag against 1,000 c.c. of Ringer's solution. To the Ringer's solution was sometimes added a small percentage of dextrose in order to retard the rate of dialysis. Bacterial growth was inhibited by the addition of powdered thymol or by working at a low temperature. Samples of blood for sugar analysis were taken at hourly intervals and the rate at which the sugar passed from the blood into the Ringer's solution was thus determined.

The results show a striking difference between the diabetic blood (from depancreatized dogs) and its control, normal dog blood with enough added dextrose to give about the same percentage of sugar as the diabetic. In the control a smooth curve is obtained, *i. e.*, the most rapid dialysis during the first hour, somewhat less the second, and so on. The diabetic, however, exhibits a marked slowing, or even a complete cessation, of dialysis usually during the second hour, but at times this occurs at some other period and there may even be two such periods in the course of a four-hour dialysis.

This may indicate that at least part of the diabetic blood-sugar is in a difficultly diffusible state, perhaps in some loose combination.

158 (1336)

Experiments on the scurvy of guinea pigs.

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The diet used consisted of whole oats, hay, and water. Hay was added in order to supply the ash of green fodder; it was found, however, to have additional value owing to its roughage, and not to be replaceable in the dietary by its ash. In some instances cod-liver oil was added to this diet, without prolonging the life of the pigs or manifestly improving their condition. This diet has the advantage of bringing about scurvy in all animals without exception, and in leading to scorbutic signs in pigs weighing 200 to 300 grams in a period of two to three weeks. It thus permits of a quantitative estimation of the influence of diet, or other factors, in relation to scurvy. The addition of orange juice to this dietary leads to a marked and long-continued gain in weight, and the disappearance of all scorbutic manifestations.

In carrying out experiments of this kind it is well to chart the progress of the scurvy, as well as the growth in weight, as it is quite possible for the weight to decrease, although the scurvy is undergoing cure. For example, if straw is substituted for the hay in this dietary this twofold phenomenon takes place. An empirical method of graphically charting the course of scurvy is suggested.

The pigs fed on oats, hay and water were not constipated, as they frequently are when given a milk diet; nor was the cecum of those dying of scurvy found to be impacted, but contained gas and semi-solid feces. An addition of albolene, in daily dose of 0.5 to 1 c.c., did not serve either to protect or to cure the animals.