

for 10 minutes on a sandbath. A mixture of 5 c.c. of filtered urine and 5 c.c. of distilled water is then added and the whole cooled in running water. The excess of acid is then neutralized by slowly adding 4 grams of lead carbonate. The whole is again filtered, the flask rinsed with 5 c.c. of distilled water. To this are now added 2 grams of sodium acetate and 0.75 gram of phenylhydrazin hydrochlorate and boiled for three to four minutes on the sandbath. It is then poured into a test tube and allowed to cool undisturbed, when a flocculent precipitate forms consisting of rosettes of golden-yellow crystals. The presence of sugar of albumin must be previously gotten rid of, as these substances interfere with the process and the results. As somewhat similar results are obtained in patients suffering from certain diseases in which active tissue changes are going on, a differentiating test must be applied, which consists in taking 20 c.c. of filtered urine and adding 10 c.c. of saturated aqueous solution of mercuric chlorid, filtering. To 10 c.c. of the filtrate add 1 c.c. of strong hydrochloric acid and boil as in the former process. It is then diluted with 5 c.c. of the former filtrate, and 10 c.c. of distilled water, cooled and treated as in the former instance.

The practical results of these examinations of the urine by these two methods Cammidge summarized as follows: If no crystals are obtained by either method the pancreas is not at fault, and the explanation of the symptoms must be sought for elsewhere. If crystals are obtained by the first method and not by the second, active inflammation of the pancreas is present and surgical interference is generally indicated. In acute inflammation of the pancreas the crystals are fine and dissolve in a 33 per cent. solution of sulphuric acid in about thirty seconds. In chronic inflammation the crystals are coarser and dissolve in one to two minutes. If crystals are obtained by both methods there may exist: 1, Malignant disease of the pancreas; 2, chronic disease of the pancreas; 3, non-pancreatic diseases.

In malignant disease the crystals are very coarse, and require from three to five minutes to dissolve, and operation is contraindicated. In chronic inflammation the crystals are smaller and dissolve in from one to two minutes. In non-pancreatic disease the crystals dissolve in one minute. Thus it seems that the size of the crys-