heat-coagulable proteins and gives a negative phosphotungstic acid test. Half saturation with ammonium sulphate yields a precipitate which gives a positive biuret test. On full saturation of the filtrate a precipitate is obtained which also gives a biuret test. It therefore contains both proteoses and peptones.

If the presence of undigested proteins in the medium is a matter of indifference to any one using it—that is, if their possible adherence to organisms removed from the culture does not interfere with the use to which the organisms are put—the acidification and autoclaving of the digest can be omitted. The medium in that case is rendered cloudy on sterilization by the precipitation of the heat-coagulable proteins.

Another step which can be omitted is the filtration of the digest through a Berkefeld candle. Its purpose is to render the digest sterile—in order that it may be stored with safety—and perfectly clear, for occasionally a very fine precipitate forms on autoclaving which passes a paper filter and makes the medium cloudy.

The only fault we have found with this medium is that cultures of gonococcus do not remain viable longer than about 12 hours. They develop very rapidly within that time but die shortly afterward. This condition obtains for both freshly isolated and stock strains.

5190

Transplantation of Ureteral Segments to the Abdominal Wall.

C. B. HUGGINS. (Introduced by L. R. Dragstedt.)

From the Department of Surgery of the University of Chicago.

In previous communications[1, 2] an osteogenic effect of the epithelium of the urinary bladder, ureter and renal pelvis was demonstrated when the epithelium was brought into association with certain connective tissues such as the muscles and fasciae of the abdominal wall, extremities, etc., in the dog.

These observations on the ureter have been repeated and extended. In 4 dogs a 3 cm. segment of the ureter was excised and split along its long axis. This rectangular piece was then sutured on the right internal oblique muscle with silk and the wound closed. The experiments were terminated at 35, 42, 62, and 79 days and in all cases an epithelial lined cyst was found partly surrounded by bone.

[1] Huggins, PROC. SOC. EXP. BIOL. AND MED., 1930, **27**, 349.

[2] Huggins, *Arch. of Surg.*, in press.

In the same 4 dogs in a corresponding part of the left internal oblique muscle a 3 cm. segment of the ureter, not split but left in its original tube form was sutured. The ends were not ligated. Examination 35, 42, 62 and 79 days later showed (1) the ends of the transplant had closed, (2) the lumen of the transplant contained a small quantity (0.5-1.0 ccm.) of cloudy fluid, (3) bone had not formed around the transplant.

Histological examination showed the transplant lined with transitional epithelium; a rather large amount of smooth muscle of the ureteral wall has survived the transplantation.

5191

Effect of Calcium Chloride Injections on the Blood Sugar of Normal and Jaundiced Dogs.*

ALLAN G. REWBRIDGE AND EDMUND ANDREWS.

From the Department of Surgery of the University of Chicago.

The complicated interrelationship between blood coagulability and its content of calcium and sugar has been the field for much study. Therapy of jaundice by the administration of calcium was popularized by the publications of Walters.[1] Attempts to give these procedures a scientific basis have not always been successful. However, the observations of many clinicians have shown beyond doubt that intravenous injections of calcium chloride are of definite value. More recently the older views have been revived and glucose both by feeding and by injection has become a favorite method of therapy. The experiments of Ravdin[2] have established the fact that raising the sugar level in the blood is of far more importance in increasing the coagulability than raising the calcium content and this procedure has many enthusiastic advocates.

Wright and Cowan[3] in a recent communication have established the fact that injection of sugar in both normal and jaundiced dogs produces a significant rise in the blood calcium and that this rise persists after the blood sugar has returned to normal levels and that the

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1 Walters, W., *Minnesota Med.*, 1925, **6**, 203.

2 Ravdin, I. S., *et al.*, *Annals Surg.*, 1930, **91**, 801.

3 Wright, H. N., and Cowan, D. W., loc. cit., 1930, **27**, 950.