

These observations were made at intervals of 15-30 minutes for 24 hours after the operation and as can be seen they totally fail to explain the profound state of collapse in which any postoperative case lies for about 24 hours.

The positive findings in our series are as follows: 1. A marked tissue thirst is indicated by the findings in the Aldrich intradermal salt test. During the period of postoperative lethargy the wheal is absorbed in approximately half the time that it took in the controls. This tissue dehydration is in striking contrast to the comparatively slight changes in the water content of the blood. 2. The most striking feature found was the enormous changes in the calcium and potassium in the blood. The Ca-K ratio was enormously lowered in every case, in some actually falling below 1. Return to normal had usually taken place by 24 to 36 hours. 3. Parallel with these mineral salt changes there occurs a decisive change in the permeability of the skin as measured by the Blister method. The blistering time is enormously prolonged, in severe cases to twice that noted just before operation.

Summary: Enormous changes in the Ca-K ratio in the blood are found after surgical operations under ether anesthesia. This is accompanied by an increased permeability of the tissues as well as a tissue dehydration.

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Uretero-ureteral Anastomosis.

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The accidental division or crushing of ureters during difficult gynecological operations has occurred occasionally, even with the most experienced surgeons. Suture of the divided ureter when the level of division has been too high to allow implantation in the bladder has resulted in a low percentage of permanently functioning ureters. This failure has resulted most often from progressive cicatricial stenosis due to leakage of urine. In this study the method used by McArthur¹ for the plastic repair of a traumatically ruptured ureter is applied to end to end suture of the ureter in dogs and in

¹ McArthur, *Surg. Gynecol. Obst.*, 1925, xli, 719.

one woman. Through a slit in the side of the proximal portion of the ureter a catheter is inserted distally toward the bladder and over it the ureteral ends are joined by 2 fine catgut sutures. Through the same slit in the ureter a snugly fitting rubber catheter is inserted toward the kidney to divert the urine from the site of suture for 8 days or more until healing occurs. The free ends of both catheters are brought outside the body in the lumbar region. The ureters of 6 dogs examined at intervals of 19 to 270 days after such an operation healed without narrowing or appreciable dilation of the lumens, with a minimum scar, without changes in the renal pelves, and without evidence of any considerable damage to the kidneys. Five months after a similar operation in a woman the ureter is slightly dilated but is not constricted at any point. The renal pelvis and calyces are not appreciably altered.

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Experimental Immunization of Horses with Herpes Virus.

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It is well known that various strains of herpes virus produce encephalitis in rabbits. Some investigators believe that the herpes virus is the etiologic agent in epidemic encephalitis in human beings. At present there is little evidence to support this view. The fact remains, however, that the herpes virus has been recovered from the brain tissue of several cases of epidemic encephalitis and the question naturally arises as to whether the herpes virus is related to the disease process in such cases or whether it is merely present by accident as a contaminating agent. A critical discussion of the question is contained in another publication.¹

In a previous communication² we have shown that rabbits may be hyperimmunized with herpes virus attenuated by fresh rabbit serum and that the serums from such rabbits are capable of producing passive immunity in healthy rabbits when injected intravenously. Attempts to immunize sheep were unsuccessful even when fresh virus was administered subcutaneously.

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¹ McKinley, E. B., *Phil. J. Science*, in press.

² McKinley, E. B., and Holden, M., *Arch. Path. and Lab. Med.*, 1927, iv, 155.