

Take at least two Röntgenographs, one in the ventral recumbent position with the anode centered over the sacrocoxygeal articulation; this should be a standard exposure for the bladder, always preserving the same distance from anode to plate. Center as above and a Röntgenograph will result from which reliable comparison as to size, position and conformity can be made. The second exposure can be taken at any desired lateral or dorsal angle. The proper angle found, stereo-Röntgenographs would be of great value.

The bismuth solution is well borne by the bladder. In one patient with cystitis it was the only injection which he could retain with comfort. The solution can be removed by irrigation after the exposures have been made, or allowed to pass off naturally. The danger of bismuth poisoning from absorption is practically nil.

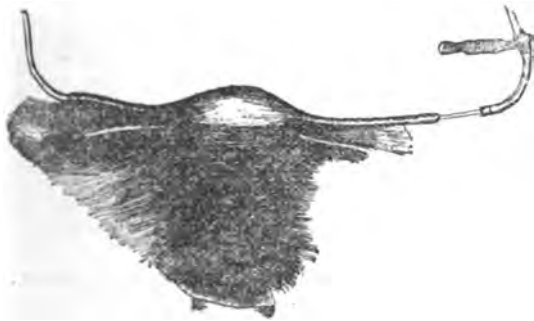
URETEROTUBAL ANASTOMOSIS

A PRELIMINARY REPORT

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Owing to the rather discouraging results following partial excision of bladder for malignant disease, the complete removal of the organ is, as a rule, the only procedure that holds out any hope of lasting cure. The all-important problem in such radical work is, of course, to establish an outlet for the urinary secretion, and one that combines the greatest insurance against ascending infection with the least annoyance to the patient.

Several more or less ingenious methods have been devised. Watson proposes preliminary nephrotomy and permanent drainage through the loin. This method may afford fairly good protection against kidney infection, but must be frightfully annoying to the patient.



Ureterotubal anastomosis.

Maydl's¹ plan of ureteral implantation into the intestine has been used. This method, or its modifications, originally devised for exstrophy of bladder, permit of control of urinary secretion, and would be excellent were it not for the great danger of ascending infection. The death-rate from this source has been 50 per cent. This is higher than when used for its original purpose, as in exstrophy of bladder, from long exposure to the exterior, ureters have acquired some degree of immunity to ordinary types of infection. The danger of infection in above operation is not only immediate, but threatened at any subsequent enteritis.

Pawlik² implanted the ureters into the vagina, Sonnenberg³ into the urethra and Rovsing⁴ with others,

left ureters in the skin opening, all with good immediate results.

Thus it seems that operations that aim to give the patient the greatest comfort are also associated with the greatest danger. The genital system, closely related as it is to the urinary apparatus, both in the early embryo and throughout life, should, it seems, be the ideal outlet for the urinary secretion. Through this route secondary infection ought to be reduced to a minimum. The only drawback is, of course, lack of control, but this is somewhat counteracted by the favorable location for wearing of a urinary receptacle.

Working along the above theory, I am now endeavoring to anastomose ureters with the tubes, as in the accompanying illustration and also to implant them into the uterus. The immediate results in dogs seem very promising. Besides a trial dog, thus far only two dogs have been used of a coming series.

DOG 1.—Brown and white, large bitch. Operation, January 4. Anesthesia, ether. The ureters were dissected up and cut off close to the bladder and distal end tied. Bladder was left intact. Both tubes were then cut off about 4 cm. from the uterus and proximal end tied. A through-and-through purse-string suture was then inserted in the distal end of the tubes, into which the ureters were drawn, as in the illustration, and the purse-string lightly tied around the tubes and reinforced by two interrupted sutures.

DOG 2.—Grayish-white bitch. Operation, January 9. Same technic as above. Both dogs are so far doing well, passing urine through the uterus and vulva.

The trial dog mentioned above was very small, with minute ureters, and consequently, very difficult to operate on, especially as the operation had not been thoroughly planned. Owing to recent pregnancy there was a great disproportion between the tubes and ureters, the caliber of tubes being many times larger than that of the ureter. In making the anastomosis, I foolishly used interrupted sutures, which made the union very imperfect. The dog died on the sixth day, urine having leaked at the anastomosis.

It is, of course, too early to report any results or give any conclusions, as the work has just begun, but the operation seems feasible, at least in dog.

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THE FUNCTION OF THE CHORIOID PLEXUSES OF THE CEREBRAL VENTRICLES AND ITS RELATION TO THAT OF THE PITUITARY GLAND*

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The secretory organs for the cerebrospinal fluid are the chorioid plexuses of the third, fourth and lateral ventricles. These are highly vascular projections of the pia mater into the ventricles, covered with villous-like projections about 1 to 2 mm. in diameter. Under the microscope these villi are seen to be made up of a number of secondary villi about 0.25 mm. in diameter, which again show grape-like projections. Through the center of the villi run comparatively thick-walled blood-

1. Maydl: Wien. med. Wchnschr., 1894, Nos. 25-29; 1896, No. 28.
2. Pawlik: Wien. klin. Wchnschr., 1891, xii, 1814, 1815.
3. Sonnenberg: Verhandl. d. Deutsch. Gesellsch. f. Chir., 1881, vol. 1, No. 11.
4. Rovsing: Hospita:stidende, 1907, xv, 709.

*Read before the Cincinnati Neurological Society, and the Cincinnati Society for Medical Research, Jan. 5, 1911.
*For reasons of space, part of the illustrations are omitted. All appear in the author's reprints.