

TWO CASES OF COMPLETE DOUBLE URETER.*

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Although the condition of multiple ureters is one of comparatively frequent occurrence, it would seem that in nearly all the cases recorded of this abnormality fusion of the ureters, forming a single canal, had taken place before perforation of the bladder wall. The entrance into the bladder of accessory ureters by separate openings, is a condition which authorities on the subject are unanimous in regarding as extremely rare.¹ Gangolphe² states that in his search of medical literature, he was able to find only two examples. His search must have been incomplete, for we have met with about a dozen recorded cases in all—sufficiently few, however, to merit that the two cases in hand be described.

Of these one was discovered in a recent autopsy at the Royal Victoria Hospital on the body of a man aged 65. The right kidney in this case was normal; the left exhibited more than one abnormality. There were two renal arteries. The upper of small size, was given off from the side of the aorta just above the level of the coeliac axis. This passed into the substance of the cortex³ of the upper part of the kidney upon its anterior and upper surface, and half way along its course gave off the left suprarenal artery. The main renal artery left the aorta at its normal point of origin, and divided into three branches, of which the lowest passed in front of the renal vein, and sub-divided into three branches.

The kidney presented two pelves. The ureter of the upper one, which was the smaller, passed down behind the vessels, and crossed in front of the inferior ureter. Half an inch before reaching the bladder wall the ureters became fused externally, but at the same time the canals remained distinct. It was not possible to pass a pin probe from one to the other, nor could fluid injected into one ureter be found to pass into

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¹ Klebs *Path. Anat.* ii, page 678 (1876); Rokitsansky *Path. Anat. Syd. Soc.* ii, p. 211; Foerster *Path. Anat.* p. 523 (1865).

² Lyon Médicale, No. 26, 1883.

³ An artery piercing the cortex is said to occur in 1 in 7 bodies examined.