Original Articles.

A CASE OF STRICTURE OF BOTH URETERS, DOUBLE HYDRONEPHROSIS, LEFT LUMBAR NEPHROTOMY, AND DEATH FROM URÆMIA FORTY-EIGHT HOURS AFTER OPERATION.

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EARLY in May of this year, I was called in consultation to a young man of twenty-two years of age, whose case was one of such unusual character, that it seems desirable to report it somewhat in detail.

The history of the illness is briefly as follows: A year previous, the patient had an attack of renal colic on the *right* side; passed soon afterwards two small calculi, and the urine contained sand for a few weeks following. About this time he acquired a gonorrhœa; cystitis resulted, but all symptoms left the patient at the end of six months, and he considered himself perfectly well, and for the last six months has not been conscious of any trouble. During this time he was actively engaged in study and athletic sports.

Five days before I saw him he went to a boat race, became chilled while there; on coming home had a severe chill, accompanied by renal colic of the *left* side, nausea, and a sudden diminution in the quantity of urine. During the next day, a swelling made its appearance in the left lumbar region, extending forward into the left hypochondrium. This slowly increased in size, and on the fourth day, was a large, tense tumor, of the size of a foetus' head at term. It was then aspirated, and about six ounces of urine were withdrawn from it. It rapidly refilled, however, and on the following morning, when I first saw the patient, had regained the size already mentioned. In the meantime, the quantity of urine passed into the bladder continued to be from three to six ounces only, in each twenty-four hours. The patient sank rapidly, with hiccough, vomiting of dark matter, as prominent symptoms, and became unconscious during the fourth day. Constipation had existed from the first. On the morning of the fifth day, he could, however, be aroused sufficiently to answer questions. Pulse, 138, regular, and fairly strong; temperature, 97° F.; tongue furred; persistent hiccough and vomiting, and slight twitchings of the muscles of the face and forearms. Bladder empty; no obstruction in the course of the urethra. The tumor as already described, tense and fluctuating, extending from the eleventh rib to the crest of the ilium, and very prominent in front. The urine was pale, cloudy, owing to the presence of pus, and crystals of its triple phosphates, and had a sp. gr. of 1010. No casts, and no concretions, and only a trace of albumen. There was no disease of the other organs detected.

The diagnosis was made of hydronephrosis of the left kidney, due to an obstruction in the course of the ureter, probably stone, and chronic disease of the right kidney, nature conjectural. The cyst was so tense that its rupture was felt to be imminent; and it was with a view to avoiding this catastrophe, as well as in the hope of finding that the obstruction was of a remediable nature, that lumbar nephrotomy was advised, although an unfavorable prognosis was given, based upon the patient's general condition, the probable diseased condition of the other kidney, and the chance of finding that the obstruction was not removable.

The cyst was reached without difficulty, or hæmor-

rhage of consequence, by an incision four finger-breadths from the vertebral spines, extending from the twelfth rib to the crest of the ilium. Its walls were tensely stretched, but not ruptured at any point, although almost as thin as tissue paper. Before opening it, a considerable quantity of urine was noticed in the muscular inter-spaces and tissues in the vicinity of the tumor, and the question occurred if this might not have escaped from the aspirating punctures of the day before, upon the refilling of the cyst.

The cyst was now incised, and about a quart of urine escaped. Upon inserting the finger into the calyx of the kidney through this wound, it entered a very large cavity, the further limits of which could not be felt in any direction. Neither the orifice of the ureter nor any normal structures were recognizable, nor could any stone or other obstruction be detected, although a long probe was pushed far down into what was taken to be the course of the ureter.

The only thing left to do was to stitch the calyx of the kidney to the sides of the wound, and to arrange for permanent drainage through the loin, which was accordingly done. An antiseptic dressing completed the operation. Large quantities of urine continued to flow through the drainage tube. The shock was slight; pulse after the operation, 140. The temperature rose in the evening to 101° F.; vomiting, hiccough, and constipation ceased for about twelve hours after the operation. No more urine has passed into the bladder.

The patient partially recovered consciousness on the following morning, but gradually returned to his former condition, and died about forty-eight hours afterward with uræmic symptoms.

AUTOPSY.

The autopsy which was made by Dr. W. W. Gan-
nett, showed appearances unusual in this class of cases. The right kidney was converted into an oval sac 9.5 by 6 cm., there being a thin layer of renal substance of a pale gray color, and increased density on its inner surface. There was a narrowing of the ureter 1.5 cm. below the pelvis, with dilatation above this point, the ureter below being of the normal calibre.

The left kidney was much enlarged, measuring 19.5 by 11 cm. The pelvis and calyces were greatly dilated, a portion only of the renal substance remaining on the inner surface. The ureter at the point of origin from the pelvis, measured 1 cm.; immediately below this point it was widely dilated, being about the size of the small intestine, and measuring when laid open, about 8 cm. in width. Two centimeters above the bladder, there was a stricture of the ureter large enough to admit only a fine knitting needle. Below this, the ureter was of the normal calibre. No calculi were found, and nothing on the outside of the ureters to suggest that there had been any cause of stricture from without.

The right kidney had probably been rendered incapable of performing its function at the previous attack of renal colic. The left kidney had not been suddenly rendered useless, but the marked degree of hydronephrosis and dilatation of the ureter had required considerable time for their development. Whether the obstruction leading to the stricture on the left side was due to a calculus is impossible to say. The patient died from uræmia, due to the small amount of secreting surface remaining.

I have found in the literature relating to this sub-

ject, only four cases which at all closely resemble this one just reported, and have thought it worth while to present a short summary of them.

1. Kroner reports a right-sided hydronephrosis due to a valve-like formation of the mucous membrane of the pelvis of the kidney, the nature and cause of which are not accurately described in the *Arch. für Gynäkologie*, 1881, xvii., 87, 109.

This patient, a young woman, recovered after the kidney had been drained by ventral median operation, a nephrotomy being performed later, from which the patient was also restored.

2. A case somewhat resembling the one reported by me this evening, is published by L. Galliard in the *Progrès Médical*, 1880, viij., 868. The patient was a man of sixty, who, until within a day or two before his entrance to the hospital, had enjoyed excellent health, and had never had any symptoms pointing to renal calculus, or referable to the genito-urinary tract. He complained, on entrance, of a severe pain localized about the lumbar region, and a fluctuating tumor could be made out there. There was pus in the urine, and the patient was constipated. The tumor increased slowly in size for four days, when he died uræmic. The autopsy showed the left kidney to be the seat of an extensive hydronephrosis, due to the presence (according to the reporter) of an inflammatory stricture one and a half centimeter long, in the ureter, just below its exit from the pelvis of the kidney. The mucous membrane above the stricture presented the characters of chronic inflammation, and there was an extensive formation of connective tissue at the site of the stricture. The other kidney is not said to have been diseased.

3. *Ayrolles, Société Anatomique*, lix. 214, has a case of a robust-looking man of fifty-four years of age, who gave a history of having passed renal calculi at intervals during the two years previous. He had passed no urine for five days before, and had, until ten days ago, been quite well. At that time he began to notice a sense of oppression in the abdomen. On the twelfth day in the hospital, pulmonary œdema came on; and on the sixteenth day after entrance, he died suddenly, having only passed four hundred grammes of urine in the last day. He was comatose during the last four days. The autopsy showed obliteration of both ureters (at what points is not mentioned), with formation of connective tissue at the points affected, and inflammation of the mucous membrane.

4. The last case is taken from *St. George's Hospital Reports*, Vol. x., 1879, p. 330. This was a young man aged twenty-three, who had catarrhal symptoms of nose, throat and bronchi, night sweats, and rapid wasting for a week. At time of entrance, the urine contained no albumen. Under treatment, he improved for three weeks. Albumen then appeared in the urine. Œdema of the lungs and diarrhoea, and œdema of the tonsils followed, and he died one month from date of entrance. (No mention is made of the quantities of urine passed). After death, there was found a stricture of the left ureter, about four inches below its exit from the kidney, above which the mucous membrane was reddened, thickened, and ulcerated. Both kidneys were enlarged, and the seat of a diffuse nephritis. The lungs were œdematous. It was thought that the stricture was not of very recent date, but had been rendered impervious by the inflammatory changes.

Cases in which stones have been present in the ureters, diminishing their calibres, or in which the flow of

urine through them has been impeded or stopped by the pressure of new growths or strictures, resulting from the presence of abscesses or new growths in their vicinity, are not especially uncommon. But I have been unable to find other than these cases of strictures of this nature, in the published reports, and offer my own to the Society in the hope that those who have had a larger experience may have met with similar conditions, which they will be ready to impart.

SEVERE AND PROLONGED NEPHRITIC COLIC WITH RECOVERY.¹

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THE patient, married, aged twenty-four, was confined with her first child, April 20, 1884. A fairly prompt recovery followed a tedious labor which terminated in instrumental delivery. A laceration of the cervix of considerable extent was left to itself, it being deemed wise to avoid operative measures until the patient's general condition should improve with change of air, her usual health being far from robust, although no special cause existed, so far as known. From June 10 (the date of her leaving the city), until the latter part of October, I lost sight of her; but immediately upon her return she consulted me, complaining of frequent and painful micturition, which had then existed about a fortnight. Examination of the urine early in November showed slight acidity, a moderate amount of pus, and an excess of epithelium of a large variety, which may have been either visical or vaginal—as the precaution of using a douche previous to passing the specimen examined was neglected. The usual treatment by sitz baths, alkalies and diluents having failed to give relief, and the pain being of such a nature as to raise a suspicion of the presence of a vascular tumor of the urethra, an examination was made November 10, but nothing beyond a gravid uterus of two months was discovered. This may have been the immediate cause of trouble which must have appeared sooner or later, as the subsequent history of the case will show. I have neglected to state that previous to her confinement, the patient's only illnesses had been an acute rheumatic fever, and a sickness which followed a fall upon the ice in girlhood, the nature of which can only be guessed at, but which necessitated the application of leaches over the course of the right ureter. The original diagnosis of cystitis was apparently confirmed—the acidity of the urine (considering the sex of the patient) not to my mind balancing the rational signs and absence of anything in the urine indicating renal trouble. Within a fortnight the pain and tenderness (the latter now involving the rectum at times) had become so intense as to require *3iii* of *tr. opii* by the rectum every day to obtain relief, besides *grs. ii* of morphia by the mouth. Anorexia and a considerable loss of strength accompanied this condition of things, and the condition of the urine meanwhile remained unchanged. All treatment except outward applications and opiates had to be abandoned on account of persistent nausea, and matters grew steadily worse until December 10, when she complained of pain in the right lumbar region. On the 12th, a severe and prolonged chill was followed by a pulse of 135, and a temperature of 104° F. Previous to this neither pulse or

¹ Read before Boston Society for Medical Improvement, October 26th, 1885.