OBSCURE CYSTIC TUMOUR OF THE BLADDER

CONTAINING TWO CALCULI

SUCCESSFUL REMOVAL BY SUPRA-PUBIC
CYSTOTOMY

BY

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THE following case is of such interest—indeed, I believe it to be unique in the annals of surgery—that I am induced to place the details thereof before the Society.

Mr. B—, an officer in the Indian Forest Department, aged 36, fourteen years resident in India, came home from Burma in the autumn of 1896, suffering from obscure urinary symptoms, which had existed ten years.

Surgeon-Colonel O'Brien, of Calcutta, under whose care the patient was in 1890, writing in May of that year, gives

such an excellent clinical picture of the case that I will quote his report verbatim :—"The patient dates the commencement of his illness to a fall in a cricket match in August, 1886. He fell on his back and was very severely shaken. Two days later he passed urine 'black as ink.' For some time after this he noticed that the urine was occasionally smoky in colour; but it was not always so, and as it did not give much trouble he paid little attention to it. Later on he consulted two surgeons in Bombay. They sounded the bladder but found nothing. He was treated with rest, citrate of potash, and aperients.

"Occasionally afterwards he used to have some difficulty in passing water. This was usually relieved by citrate of potash mixture. He got worse in Burma, but always derived benefit from the citrate of potash. In November, 1889, after getting wet snipe shooting, he noticed blood in the urine 'at the end of passing water.' He got better of this before going into the jungles for the working season, but in January, 1890, he again got very bad, passing blood every time he urinated. He returned to the station for treatment, and in ten days was so much better that he insisted on returning into camp. He was obliged to come back owing to the 'agonies' experienced in passing water. He then went to Rangoon, and was in hospital there for a week. The civil surgeon advised him to go to the sanitarium at Darjeeling.

"He was admitted into the sanitarium, and came under my care March 13th, 1890. I found him in a very weakly, blanched, cachectic condition. The daily temperature ranged from 101° to 104° F. The tongue was dry and brown in the centre. The pulse was quick (84 to 98), small and compressible.

"The urine was the colour of pea soup, and thick. On being allowed to stand in a vessel, the usual thick ropy sediment indicative of cystitis was seen. The sediment under the microscope was found to consist

almost entirely of pus. There was no alkaline condition of the urine ; it was faintly acid.

“The patient was kept in bed for three weeks, and the bladder washed daily with boric acid solution. Internally, benzoic acid, quinine, and iron were given. Under this treatment the urine gradually cleared, and the quantity of pus was reduced to a light sediment, a quarter of an inch in depth at the bottom of a 20-ounce jar of the urine. An important point is that in the normal state of the patient when free from fever, &c., the urine is always of a pale straw-colour and of low specific gravity. The specific gravity during the six weeks he was under my treatment varied between 1008 and 1012.

“The day after his arrival I got him to pass water in my presence. With great straining he got out about 2 ounces of the pea-coloured urine. I then passed without the slightest trouble a No. 8 soft catheter, and drew off 16 ounces. This occurred every time he passed urine ; he was unable to empty his bladder. I had the catheter passed three or four times a day, so as to empty the viscus completely and enable it to regain its tone. Under this treatment he recovered so far that he could pass 12 ounces at a time, but there was always an ounce or two left behind. There was never extreme pain from the stoppage during the flow, not such as would have occurred if it had been due to stone. I nevertheless sounded him carefully on four occasions, but could not discover a stone.

“He improved a good deal and gained weight in the sanitarium, but he was thrown back from time to time by intercurrent attacks of malarial fever, accompanied by the usual rigors, high temperature, and profuse sweats, ending in recovery in a few days.

“A point that struck me in connection with this case was this:—For a few days at a time the urine would show daily improvement ; then all of a sudden, and without apparent cause, half an ounce or an ounce of almost

pure pus would come away mixed with it, and settle down on being allowed to stand.

“Another point that I frequently noticed was that the urine when drawn off by a soft catheter, with patient in the recumbent position, was always clearer than that passed by the patient in the erect position and with some straining. In fact, it would appear to be clear that there is an abscess cavity in the urinary tract somewhere above the bladder (ureter or kidney). When all traces of cystitis and bladder trouble had disappeared, pus in large quantity would occasionally appear in the urine.

“Pain and tenderness were often felt and complained of in the region of the right kidney.

“The obstruction to the complete emptying of the bladder does not appear to be due to either a stone or a growth of any kind, so I think an exploration of the bladder or of the right kidney would be desirable.”

Surgeon-Major Evans, under whose care the patient subsequently passed, gives a similar description of the symptoms, and came to a somewhat similar conclusion, viz. that the case was one of encysted stone or suppurative pyelitis. He further urged that the bladder should be explored by a cystotomy.

I first saw the patient on September 21st, 1896, and found that the symptoms already so graphically described, continued without any abatement. When he tried to pass water an ounce or two came away, and then the flow stopped, to go on again after a while and again stop; but he could only empty his bladder completely by lying down or by passing a catheter. He had not passed any blood since 1890. He had no pain latterly in the bladder or kidney, even when he took exercise; but when he got a jar he had some pain in the right kidney. Urine acid, sp. gr. 1022, contained much pus, but no blood or casts.

I carefully sounded the bladder both by the ordinary sounds and by the aspirator and cannula, with negative results. I therefore decided to make a cystoscopic

examination. I may say, however, that I had a strong suspicion that there was a tumour of the bladder of some kind, which fell up against the neck and obstructed the passage of water. I came to this conclusion owing to the fact that seven years ago, in a patient suffering from this particular symptom, on making a digital exploration of the bladder through the perinæum after the method then so strongly advocated by Sir Henry Thompson, I found a pendulous fibroid tumour growing from the roof of the bladder an inch from the neck, which flapped against the inner orifice of the urethra and blocked the passage. This tumour I twisted off by forceps, the patient making a thorough recovery.

On September 24th the patient entered a surgical home, and next day, Dr. Dudley Buxton giving an anæsthetic, I made a cystoscopic examination, when I at once discovered a tumour the size of a walnut growing from the lower right posterior aspect of the bladder, smooth and glistening on its surface, and attached by a broad short pedicle. There was no bleeding during the examination, the boric acid solution being drawn off as clear as when injected.

The patient left next day, and returned to the home on September 29th for operation. Next day, Mr. Carter Braine giving the anæsthetic and Mr. Cyril Wace assisting me, I opened the bladder supra-pubically, Petersen's bag being used in the rectum. On passing my finger into the bladder through the wound I at once felt the tumour projecting from the right side of the base of the bladder, and attached by a smooth, tense, round pedicle $\frac{3}{4}$ inch in diameter. The tumour was more or less bilobed, and had a small papillomatous growth on its surface. The forceps was introduced, the tumour caught and twisted, when a small portion including the papillomatous growth came away. I then grasped the main body of the tumour and drew it into the wound. It looked like a large strawberry mass, and felt quite hard to the touch; and on scraping it with the finger-

nail, to my astonishment it was found to contain a uric acid stone the size of a nutmeg (weight 29 grains),

which was shelled out by the finger-nail and pressure of the forceps. On letting go the tumour and passing the finger into the bladder, a second stone the size of a large pea (weight 12 grains) was found. The tumour now felt flaccid and empty, like the finger of a glove. In addition to the calculi it had evidently contained fluid. I grasped it by the forceps, withdrew it through the wound, clamped the base with another forceps, and cut off the main portion of the cyst. The remainder was burnt down to the clamping forceps by Paquelin's cautery. As the lumen of the pedicle when compressed by the forceps was about an inch long, and not knowing the nature of the cyst or what cavity it might communicate with, I passed a needle armed with a double silk ligature through the pedicle behind the forceps, and tied it in two parts. Fearing to cut off the ligatures short lest a phosphatic concretion might form on their ends, I withdrew them through the

wound, inserted a half-inch drainage-tube, and dressed the wound as usual. The ligatures came away on the tenth and twelfth days respectively. The patient made an uninterrupted recovery. Urine began to pass through the urethra on October 13th, the patient began to sit up on the 20th, and the abdominal wound was completely closed on November 3rd. The patient went home on November 10th. On the 24th of that month he wrote, "I am perfectly well in all respects; I never think of my waterworks now." I saw him on March 1st, this year (1897); he was in perfect health, and had been playing hockey in a public match the day before.

This case presents many points of interest. 1, and most important, what were the origin and nature of the tumour? and how did the calculi get inside it? I may at once say that microscopically the tumour is found to be a thin single-walled cyst, composed of fibrous and muscular tissue, and covered on both the outer and inner surfaces by transitional epithelium, such as is found in the bladder and ureters. The small papillomatous growth torn from its surface is composed of dense fibrous tissue covered by the same kind of epithelium. Small non-bleeding papillomata of this kind are not unfrequently seen during cystoscopic examination growing from the bladder wall, particularly in the vicinity of the ureteral opening, and are, as a rule, harmless. The cyst wall being single precludes the possibility which might suggest itself of the two calculi having got encysted in the ordinary way in an outward pouch of the bladder, and then this outward pouch with its contents getting retroflexed on itself, turning inwards and carrying a second layer of the bladder wall before it.

The possibility of the tumour consisting of a prolapse of the ureter through the ureteral opening also suggested itself to my mind, and, I may tell you, gave me some anxiety during the first few days after the operation, lest I had ligatured the lumen of the ureter in its entirety. I consoled myself, however, with the reflection

that no trace of a ureteral opening was found in that portion of the cyst cut off, that no symptoms such as would occur had the ureter been completely obstructed supervened, and that had any such symptoms set in I could remove the ligatures without difficulty.

The most reasonable theory to my mind is this : that the calculi passed down from the kidney as far as that portion of the ureter which passes obliquely through the bladder wall before ending in the ureteral opening, and getting impacted there, and impelled by the force of the flow of urine from behind, bulged the ureteral wall, here covered only by mucous membrane of the bladder, into that viscus. Thus eventually a pendulous cystic tumour containing the two calculi, and rendered tense by the pressure of urine from behind, was formed, projecting into the bladder, and presenting the appearance on cystoscopic examination of a fibroma.

The origin of the pus was probably a pyelitis resulting from the irritation caused by obstruction of the ureter. The pus probably accumulated in the cyst and in the dilated ureter above it, and flowed intermittently through a patent ureteral opening. In the operation this sac was cut off, the ureteral wall repaired, and the ureteral opening left untouched and patent.

Whether the injury sustained in the cricket-field had anything to do with the formation of the calculi is doubtful. Possibly one or both were present in the kidney at the time, and shaken out into its pelvis by the fall.

2. The case presents an excellent illustration of the great utility of the judicious employment of the electric cystoscope for diagnostic purposes in obscure bladder disease.

3. I am not aware of any case on record where a ligature has previously been applied to the pedicle of a tumour of the bladder. The only untoward symptom that ensued from this was that the ligatures were covered by slimy and bloody mucus, and I have no doubt that

their presence retarded by a few days the closure of the abdominal wound. I shall have no hesitation in future in ligaturing the pedicle of a bladder or prostatic tumour, when, to prevent hæmorrhage or for other reasons, it may seem desirable to do so, bringing out the ligatures through the supra-pubic wound, so that eventually they may come away in their entirety.

ADDENDUM.

I saw Mr. B— again on September 30th, 1897—the anniversary of the operation. He was in perfect health, about to return to duty in India, and a week before had been accepted by an insurance company as a first-class life.

(For report of the discussion on this paper, see 'Proceedings of the Royal Medical and Chirurgical Society,' Third Series, vol. x, p. 15.)