A CASE
IN WHICH
LARGE CALCULI WERE REMOVED
FROM BOTH KIDNEYS,
FATAL HÆMORRHAGE FOLLOWING THE SECOND
OPERATION.

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THE following case, if described in full, would be a very long one ; I propose, however, merely to report in detail those special facts which make it, as I think, worthy of the attention of the Society.

In November, 1888, I first saw, in consultation with Dr. Ralfe and Mr. Willans, a gentleman who was suffering from symptoms of renal calculus. He was a spare man, thirty-seven years old, 5 feet 8 inches high, and weighing 8 stone 7 pounds, this being somewhat less than his normal weight. He had led an active, indeed a somewhat athletic life, and had only complained of symptoms referable to the kidney for two and a half years, during

which time he had occasionally passed a good deal of blood, and, in the year 1887, a small stone. There was lumbar pain, principally upon the left side, but he felt sometimes what he described as a faint echo of this pain upon the right side. Both kidneys could be felt, but neither was apparently much enlarged. The urine was sufficient in quantity, but had a specific gravity of only 1010, and contained one-twelfth or more, by measurement, of thickropy mucus and pus.

The diagnosis made, was—left renal calculus and left pyelitis; and very probably a calculus, if not pyelitis, on the opposite side.

On November 27th, the left kidney was exposed by the usual lumbar incision, and an enormous mass of stone, weighing 832 grains (moist), (732 grains dry), was removed from the pelvis and dilated calyces without material difficulty. The stones consisted of uric acid, coated with phosphates, and had a strong ammoniacal smell. The hæmorrhage was insignificant, although the substance of the kidney was, of necessity, very freely torn and divided. The shock of the operation was, though considerable, by no means alarming.

The points of interest during the healing of the wound are these:—

First. Though the urine in the dressings had a pungently ammoniacal smell, the discharges from the wound never became putrid, and the wound did not inflame.

Secondly. There was a copious erythematous rash—urticarial in character—which started from the wound, and then appeared all over the body, giving rise to most intolerable itching.

Thirdly. The urine passed from the bladder never became free from pus and mucus, and remained of low specific gravity. This was taken as a possible indication of the existence of mischief in the opposite kidney.

Fourthly. The wound healed with remarkable rapidity, being completely closed in about three weeks.

But this closure was not permanent. During the next

year he had a series of attacks marked by high temperature, drowsiness, sickness, and diminished secretion of urine, evidently depending upon the accumulation of pus and urine in the left kidney. They were sometimes relieved after the discharge of a plug of mucus by the urethra, sometimes by the opening of the lumbar wound. Once a stone was passed weighing ten grains by the urethra, and more than once from the wound, and ultimately it proved to be most convenient for him to wear an india-rubber plug in the sinus to keep it from closing, by means of which he could keep himself dry, and by the removal of which, when accumulation occurred, its unpleasant effects could be avoided.

In the summer of 1889, the soakage from the wound became constant and considerable, and I, therefore, assumed that the ureter was plugged, most probably by a stone, and on September 12th, I opened up the wound and explored the pelvis of the kidney, and the ureter as far as the brim of the pelvis. The whole ureter was very much thickened, and, at one point, was so hard that I fancied it must contain a stone, so I drew this part forward with my finger and a blunt hook, and made a small vertical incision into it; but it was clear that the hardness was due to the products of chronic inflammation and not to the presence of a calculus.

For some unexplained reason, at the moment of this exploration, rather severe hæmorrhage set in from the kidney which, at the time, was not being in any way interfered with. I could not see or secure the bleeding point, so it seemed best to plug the pelvis of the kidney, and I was obliged to desist from any further investigation of the ureter.

I cannot say why, but it is a fact that, after this operation, the ureter became again pervious, and the urine contained much less mucus and pus. Possibly the contact of the plugs for about a week may have had some beneficial effect upon the mucous membrane of the pelvis of the kidney. The patient returned to his work, wear-

ing only the india-rubber plug, which he removed from time to time to allow the urine to escape, and he improved very much in health and strength. But he was now able to devote his attention more to the other kidney, and he became convinced—and convinced me, too—that there was a stone on the right side also. I explained to him the risks of operating on a kidney when the other is known to be more or less disabled, and the possibility of the formation of a second permanent fistula, but I advised him to submit to it, and he, indeed, was anxious for the operation to be done.

On November 19th, 1890, the right kidney was exposed by a lumbar incision, and was at once felt to be full of stone. No hæmorrhage resulted from the incision of the kidney, but the removal of the stones (which weighed 480 grains dry), and the consequent free laceration of the renal tissue caused very smart venous bleeding, which, however, came from no obvious point and was always easily controlled by pressure.

At the end of the operation the pulse was very poor—so poor, indeed, that I was advised by the anæsthetist not to persist in my attempts at the removal of the last minute fragment of stone—but the bleeding had stopped, almost if not completely. I thought, however, with the experience of the last operation in my mind, that it would be wise to plug the pelvis, so I inserted rather firmly, round a large flanged drainage-tube, some strips of the cyanide gauze, and applied a firm bandage over a very thick dressing; and when I left the house, half an hour after the completion of the operation, I did so with very little anxiety, for the pulse was slow and much stronger, and the general condition good.

When he awoke from the ether, he complained of intense pain, and begged to have the bandages released. This, of course, was not done. He remained in the same state for about an hour, when he suddenly collapsed, and at the same time, a considerable soakage of blood appeared through the dressings. I cannot, therefore,

doubt that hæmorrhage was the cause of the fatal result. It was not possible to make a post-mortem examination.

It is needless to say that this is a case, the record of which one would gladly conceal in his note-book and banish from his mind ; but I think it should be published for the instruction of others. For, whilst the danger of wounding a large vessel in the kidney either by incision or laceration cannot be ignored, the bleeding, which is often free, so commonly stops of itself (as it does after incision into other vascular organs), that we are, perhaps, predisposed to underestimate its importance ; but of a considerable number of cases (between twenty and thirty) in which I have incised the kidney, this is the first in which serious trouble has arisen from hæmorrhage, and the only one that has died as the immediate result of the operation. I gather from reading and inquiry that it is a very rare accident after nephrotomy.

In looking back at the case, I do not see that there were any indications to make me act differently at any particular stage of the operation ; but, no doubt, it would have been wiser to have plugged the kidney more forcibly and without the use of a drainage-tube, if, indeed, it was wise to plug it at all. I do not believe that it would be possible to catch up and tie a large vessel in the kidney even if the organ were very widely opened and dragged up forcibly into the wound.

Perhaps it is the duty of the surgeon to wait for a longer time with his patient under such circumstances, or at all events to leave an assistant who is prepared to remove the dressings on the slightest suspicion of hæmorrhage ; and, if necessary, to take out and re-introduce the plugs. It is easy to be wise after the event, and I can only hope that others will profit by my experience.

Postscript (June, 1891).—A very valuable suggestion was made by Mr. Arbuthnot Lane in the discussion that followed the reading of this paper, which I have myself since then put in practice, and can thus bear personal

testimony to its utility. He spoke of a case in which hæmorrhage from the cut surface of the kidney had been controlled by the pressure of a ligature, passed through the substance of the organ from front to back so as to close the particular part of the wound containing the vessel. I have, however, found even this to fail in the very congested kidney of a patient with complete suppression, caused by blockage of the ureter of a solitary kidney. The gland substance in this case was so brittle that it was impossible to exert sufficient force to tighten the ligature without making it cut its way out. In this case, however, the hæmorrhage before long stopped spontaneously. I cannot doubt that Mr. Lane's suggestion is a very good one.

(For report of the discussion on this paper, see 'Proceedings of the Royal Medical and Chirurgical Society,' Third Series, vol. iii, p. 42.)