A

CASE OF RENAL CALCULI.

BY

SAMUEL GEE, M.D.,

ASSISTANT-PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL AND TO THE
HOSPITAL FOR SICK CHILDREN.

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THE patient, whose history forms the subject of the following communication to the Society, was admitted into St. Bartholomew's Hospital on the 9th of July, 1873, under the care of Dr. Harris. The age of the patient was thirty-eight years. His father was gouty. He himself had suffered from gout since the age of twenty-seven years, having three or four fits each year.

From childhood he had been liable to attacks of pain in the right loin. Whether these attacks of pain were attended by other symptoms indicative of renal colic I am not able to say. Five months before his death the pain in the right loin became continual. And, about the same time, he noticed a swelling in the right half of his belly.

On admission into the hospital he looked pale and sickly. There was a small gouty deposit in the cartilage of the right ear. Both the great toes were much deformed by gouty disease, likewise some of the fingers.

The abdomen was prominent on the right side. By palpation, it was easy to feel a tumour, which corresponded in position with the visible swelling, and which occupied a large part of the right side of the belly, reaching inwards to the middle line, upwards to a little below the costal margin, and downwards nearly as low as Poupart's ligament. The upper part of this tumour was hard as stone; the lower part was soft, and gave an imperfect fluctuation; moreover, even in this part, hard spots could be reached by deep pressure.

He passed a natural quantity of urine; it was alkaline, of specific gravity 1015, and turbid with pus and prismatic crystals of phosphate of magnesia and ammonia.

Whilst in the hospital he suffered from constant pain. He died rather suddenly, on July 16th, seven days after admission. His death was not preceded by any symptoms of suppression of urine.

At the examination post mortem, the heart, lungs, liver, spleen, pancreas, alimentary canal, and supra-renal bodies were found to be quite healthy. The urinary bladder contained a pint of urine; its muscular coat was greatly hypertrophied. The urethra and ureters were natural.

The abdominal tumour felt during life was proved to be renal. The right kidney was greatly enlarged; its pelvis distended and sacculated; the true kidney tissue much altered, flattened, and spread out over the contents of the dilated pelvis. These contents were as follows (see Plate II, fig. 1):

- i. A great calculus, weighing $36\frac{1}{4}$ ounces;
- ii. About a thousand smaller calculi;
- iii. A large quantity of calculous dust, and purulent urine.

The left kidney, also, was greatly enlarged; and its pelvis distended by a calculus which weighed $9\frac{3}{4}$ ounces (see Plate II, fig. 2). There was, besides, gritty purulent urine, but no smaller stones.

I. The great calculus in the right kidney weighed $36\frac{1}{4}$ ounces. It consisted of a main stem which corresponded

with the pelvis of the kidney. This stem supported ten calculous masses which corresponded with the dilated calyces. In separating the soft parts, two of these attached masses broke off; and the calculus in one calyx seems to have been originally unattached. The stone is semi-translucent, very hard, of great density, and dirty white in colour. That aspect of the calculus which during life was internal is beautifully crystalline, prismatic; some of the prisms being half an inch long. The external aspect is very smooth and shining. The structure of the stone is not uniform; running through the pelvic stem is a brown core, which comes to the surface in two places, where it is not coated with the white material. The dimensions of the stone are $6\frac{3}{4} \times 5 \times 3\frac{1}{2}$ inches. The accompanying drawing (Plate II) will make what I have said more clear.

II. Of the other stones found in the pelvis and calyces of the right kidney, eight were larger than a cherry-stone (see Postscript).

i. The largest was oval and flattened; weight 50 grains; its surface was smooth, and its colour light brown, except in one place near the middle, where a dark-brown nucleus, quite like that of the great calculus, came to the surface. Section of the stone rendered this dark nucleus very apparent.

ii & iii. Two calculi weighed respectively 45 and 30 grains; they consisted of a light-brown centre, covered with opaque white crystals.

iv—viii. The other five calculi weighed respectively 40, 33, 32, 20, and 19 grains. They were all smooth, flattened oval, and pale brown. Section of one of them showed it to consist of two parts, namely, a transparent centre almost colourless, and an opaque brown crust, both highly crystalline.

III. Besides these stones there were about a thousand calculi larger than a millet seed in circumference. Together they weighed nearly two ounces. They all had much the same characters; being for the most part smooth, thin, and flat, and the larger ones very much like melon seeds. Their

colour was pale brown. A few were coated with minute crystals. Seven hundred and twenty of these stones have been preserved.

IV. The stone in the left kidney was, like that in the right kidney, of very irregular shape, and consisted of a part which corresponded with the pelvis, and ten processes which corresponded with the calyces. The pelvic portion was of the size of a turkey's egg. The weight of the whole, nine ounces and three quarters. In all other respects this stone was very much like the other; a large part of its surface crystalline, but the crystals not so fine as in the greater calculus.

Concerning the chemical composition of the calculi—the white crystalline matter, which formed the bulk of the the large calculi, was found by Dr. Russell to consist of phosphate of magnesia and ammonia, nearly pure. The smaller calculi and the sand were composed of the same salt. The brown nucleus of the large stone was more complex in its nature, consisting of oxalate of lime, with traces of phosphate of magnesia and ammonia, carbonate of lime, and uric acid.

But my reason for submitting the notes of this case to the Fellows of this Society has been to put on record the great size of two of the stones. I believe that they are the largest renal calculi which have been noted, with one exception. According to Civiale,* Pohl found a stone, which weighed more than five pounds, in the kidney of a princess. Putting this case on one side, nine ounces seems to have been the maximum weight attained by any renal stone hitherto recorded. The largest of the stones which I have described is four times this weight. The specimens themselves are on the table; no doubt they will be long preserved among the curiosities of our Museum at St. Bartholomew's.

Postscript.—Since writing the above description, another stone of triple phosphate, weighing seventy grains, has been found imbedded in a crypt of the right kidney.

* Civiale, 'Traité de l'affection calculieuse,' 1838, p. 115.

DESCRIPTION OF PLATE II.

RENAL CALCULI (see p. 78).

- Fig. 1. Large calculus, weighing $36\frac{1}{4}$ ounces, found in the right kidney. $\frac{1}{2}$ diameter of real size.
- Fig. 2. Left kidney, and contained calculus, weighing $9\frac{3}{4}$ ounces, found in its pelvis. $\frac{1}{2}$ diameter of real size.

Fig. 1.

Fig. 2.