C A S E
OF
UNUSUAL DIFFICULTY IN LITHOTOMY,
ARISING FROM
GREAT DISTORTION OF THE PELVIS
BY RICKETS.

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I HAVE recently met with a form of obstruction to the removal of stone from the bladder, which is of so rare a kind that it appears to me desirable to place it on record. There are few professional duties, perhaps, which more urgently demand performance than that of citing those irregular and remarkable cases which form exceptions to our common experience; more especially if the knowledge of them may be useful to guide others when encountering similar instances hereafter. In the present case I am the more impelled to do so, because I know of no parallel example in the literature of the subject. Appended to the recital which follows are some remarks by my friend and

colleague, Mr. Erichsen, under whose care the patient had previously been placed.

CASE.—George Sharp, æt. 4½. I saw him first August 20, 1863. He had the usual symptoms of stone in the bladder, while a cicatrix in the perineum indicated the site of a median operation of lithotomy which had been performed by Mr. Erichsen about nine or ten weeks before. There was a small fistulous opening in the cicatrix, through which some urine passed occasionally. The child was extremely weak and emaciated, and his sufferings were very severe.

On sounding I found a stone of rather large size, and I proposed to his parents to cut him at the earliest opportunity. There was evidently no alternative between this proceeding and a painful, lingering death. I was at this time in temporary charge of Mr. Erichsen's duties during his absence from town, and I obtained his full concurrence with my proposal before carrying it into effect.

The child was admitted into the hospital of University College on the last day of August, 1863.

On the 2nd of September he was placed on the operating table under chloroform, Mr. M. B. Hill holding the staff. I made my incision precisely in the line of the old cicatrix, and on my finger entering the neck of the bladder, I stated to those around that I found "an unusual prominence, which is evidently the promontory of the sacrum, deformed apparently by rickets, and barring the entrance of my finger into the cavity of the bladder, which viscus appears to be wholly in the abdomen." I felt a stone with the tip of my finger, which had just room to pass into the space between the promontory and the pubic symphysis. I endeavoured to pass a pair of small forceps on my finger, but the room was insufficient. On placing my right hand on the abdomen, I felt the stone most distinctly, and could place it by pressure in contact with the tip of my left index finger, situated in the neck of the bladder. I desired Mr. Hill to grasp the stone there, and to press it as much within the brim of the pelvis as possible. He maintained it in

that position firmly, while I insinuated a pair of polypus forceps, one blade laterally on either side, and after one or two fruitless attempts, from external layers of the calculus becoming detached, and causing the blades to slip, I succeeded in extracting it entire. There was not much bleeding; a tube was placed in the wound, and the child removed to bed.

The next day he showed symptoms of peritonitis, which increased, and on the third he died.

At the post-mortem examination the usual marks of peritonitis were found in the abdomen. The bladder was situated entirely in the abdominal cavity; the index finger could only just be passed flatwise between the sacral promontory and the symphysis pubis; the bladder was inflamed also. I had the pelvis carefully removed entire, and a drawing made of the preparation (see Plate I, Fig. 1*a*). Viewing the upper outlet of the pelvis, it is seen to present an irregular heart-shaped figure, obliquely cordate: the sacral promontory approaching within three-eighths of an inch of the left pubic ramus, and within barely five-eighths of the right. From the promontory to the symphysis pubes there is barely seven-eighths of an inch of space; and it must be remembered that these are the measurements on the dried bone, and that they were less when the soft parts were present. The calculus itself is also presented to the Society. It is composed of uric acid, is hard, and has an oval form with the following measurements, after losing some portions of its outer layer, which will be found accompanying it.

Length, one inch and an eighth; breadth, almost seven-eighths of an inch (that is, more than thirteen-sixteenths); thickness, fully five-eighths of an inch. It weighs two and three-quarter drachms. It is easily seen, by examining the preparation, that sufficient room to withdraw the stone through the pelvis exists only at the central portion of the outlet, and a little to the right of it. The length and the thickness are seen at Plate I, figs. *b* and *c*, which figures delineate the calculus of its exact form and size.

I have before said that I have not met with any record of a case presenting the difficulty here described. There is an allusion to it in Dr. Gross's work 'On the Urinary Organs,' 2nd Edit., p. 563, in the following terms:

"Embarrassment of a serious, if not insurmountable, character may arise from unusual narrowness of the outlet of the pelvis. In rickety subjects the opening is sometimes reduced to a mere vertical slit. Some years ago a soldier, affected with vesical calculus, died in one of the hospitals of Paris, and on examination it was found that the distance between the branches of the ischiatic and pubic bones did not exceed six lines."¹

On reference, however, to the French journal named, I do not arrive at the conclusion given in the passage quoted. That a man so deformed died and was dissected, is clear; but there is no mention of his having been the subject of stone in the bladder.

The paragraph in the 'Journal des Progrés' is part of a long memoir 'On the Influence of Anatomical Deviations upon Surgical Operations,' by Dr. F. Robert; and it is as follows:

"The ischiatic and pubic rami of the pelvis may be more or less widely separated than usual. Sometimes we see them approximate so closely that they are only five or six lines distant from each other. I had the opportunity of observing such a condition in the body of a soldier at the Hospital of Val-de-Grace. This configuration involves the impossibility of executing perineal lithotomy with success. It is one of those cases in which supra-pubic lithotomy must be resorted to."²

¹ 'Journal des Progrés,' t. viii, p. 200.

² The original of the quotation, translated from the French. "Les branches ischio-pubiennes de l'os coxal sont plus ou moins écartées. On les a vues tellement rapprochées l'une de l'autre qu'elles n'étaient distantes que de 5 ou 6 lignes. J'ai l'occasion d'observer un fait analogue sur le cadavre d'un soldat à l'hôpital du Val-de-Grace. Cette configuration entraîne avec elle l'impossibilité d'exécuter la taille sous-pubienne avec succès. C'est un des cas où il faudrait recourir à l'incision de la

It is quite obvious that the reference to perineal lithotomy is a general reflexion suggested by the abnormal condition of the pelvis, and is not the history of any case in which an operation had been performed. Hence I am unable to adduce an instance illustrating the one under consideration. There exists consequently no experience to guide us as to the propriety of adopting what, at first sight, appears to be the preferable mode of proceeding, viz., that of suprapubic lithotomy. Had I been at all aware of the anatomical conformation of the pelvis in this case before operating, the question of adopting that procedure would have been seriously considered by me. It is not unlikely, however, that the purely abdominal situation of the bladder might have rendered that operation scarcely less hazardous than the perineal one. I think, however, that I should, with my present knowledge, elect to adopt it in a precisely similar case.

With regard to the mode of death which terminated the patient's existence, it was that which, after considerable research on this subject, I have elsewhere shown to be the most common one among the fatal cases of children, viz., peritonitis.¹ The natural situation of the bladder in childhood renders it as much an abdominal as a pelvic organ, and difficult lithotomy, or the access of inflammation from any other cause, generally attacks the peritoneal more readily than the pelvic connections of the viscus. In the case before us this was the course observed, and although extraction was not particularly difficult nor very prolonged (about seven or eight minutes), yet in the bad condition of the patient the occurrence of peritoneal inflammation, under the circumstances described, could not occasion much surprise.

vessie au-dessus du pubis.”—“De l'influence des Variétés Anatomiques sur les Opérations Chirurgicales,” par F. Robert. ‘Journal des Progrès des Sciences et Institutions Médicales,’ Paris, 1828, tome viii, p. 200.

¹ ‘Practical Lithotomy and Lithotrity,’ by Mr. H. Thompson, p. 95, Lond., 1863.

NOTE BY MR. ERICHSEN.

The patient whose case has been described by Mr. H. Thompson was, in the first instance, admitted under my care into University College Hospital for stone in the bladder. He was an unhealthy, rickety child, with considerable tumefaction of the abdomen and distortion of the lower limbs.

I cut him for stone on June 10th, by the median operation, as now usually practised. After dilating the neck of the bladder, the finger passed into a narrow tubular cavity, at the upper end of which the stone could be felt by me high above the pubes. I readily seized it with ordinary lithotomy forceps, but found, on endeavouring to extract it, that it was either dragged out from between their blades, or that the calculus and forceps got locked together in the narrow channel leading to the external wound. It was evident, at the time of the operation, that the obstacle to extraction did not exist in the soft parts, and I consequently did not attempt to enlarge the aperture in them by incision or by forcible dilatation. Finding that the calculus could not be extracted in the usual way by ordinary instruments, and that it was too hard to be broken up by the forceps and extracted piecemeal, I thought it more prudent to desist from further attempts, and to endeavour to complete the operation at some future period. The child was accordingly sent back to the ward, where it remained about a month, the wound healing kindly up to a fistulous aperture. It was then attacked by diarrhœa, which necessitated its removal from the hospital, the mother being directed to bring it back for operation when, sufficiently recovered. It was readmitted towards the end of August, when, during my absence, it passed into the hands of Mr. Thompson, who performed the operation he has just described.

DESCRIPTION OF PLATE I.

Fig. *a*.—The pelvis, from Mr. Thompson's case of distortion occurring in a child, the subject of stone in the bladder. The outlet is of the natural size.

Fig. *b*.—The calculus. Actual size.

Fig. *c*.—Ditto, to show the thickness.