

his profession. He was never idle. Before his time was absorbed by an exacting practice, he occupied the spare hours by doing scientific work. As his practice increased, the midnight hours for study became longer. He had no use for clubs, theaters, athletic games or social functions. He never ceased to be a tireless student. His linguistic attainments were a great aid to him in absorbing and digesting the medical literature of the world. He was a careful, critical reader and always made extensive notes of what he read, which were classified and could be utilized whenever needed. He never went to his clinic without notes to which he could refer in discussing the case under consideration. His clinical lectures in print would have been so many exhaustive monographs on the principal cases presented, illustrated by artistic colored crayon drawings. As a diagnostician, he had no superior. He examined his cases with the utmost care and in obscure, doubtful cases made use of all modern diagnostic resources before he made his final diagnosis. His accurate knowledge of anatomy and morbid anatomy made him a safe and successful operator. There is no operation in surgery and gynecology he did not perform. He was quick to adopt and practice new operative procedures when he became satisfied they were improvements upon older methods.

It was his diligence, his application, his honesty, his deep learning that commanded the respect and won the affection of his colleagues and riveted the attention of his students. He was the architect of his fame and success. After years of unselfish toil, when he had reached the pinnacle of his fame, he could say, with Beattie:

Ah, who can tell how hard it is to climb
The steep where Fame's proud temple shines afar?

Fenger is dead, but his example and his work will always live. He is now at rest from his labors, where sorrow, pain and death are unknown.

Let us weep in our darkness, but not for him;
Not for him who, departing, leaves millions in tears;
Not for him who has died full of honor and years;
Not for him who ascended Fame's ladder so high
From the round at the top he has stepped to the sky.

—Willis.

Finally, let us say to our departed friend, esteemed colleague and beloved teacher:

Fare thee well! And if forever,
Still forever fare thee well.—Byron.

NEPHRECTOMY, SUBSEQUENT NEPHROTOMY AND FINALLY SUPRAPUBIC CYSTOTOMY.*

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The serious or fatal result that often arises from moderate or even slight operative interference with the genito-urinary apparatus, as in anuria from a nephrotomy, or serious "urinary fever" from the passage of a urethral instrument, has its counterpart in the occasional tolerance of extensive, repeated and prolonged operative procedures on these organs.

The past twenty-one years, during which a portion of the care of the kidneys has passed from the field of the physician to that of the surgeon, have been marked by notable examples of the change in our lines of demarcation for work, and even now the relative fields are changing in the claim that Bright's disease, at least in some varieties, is to come under the surgeons care.

* Read at the meeting of the Second District Branch of the New York State Medical Association at Troy, May 29, 1902.

In the somewhat over fifteen years, during which I have had occasion to resort to surgical measures on the kidneys, I have had opportunity to realize that a fatal result could supervene in what seemed a relatively slight operation, while on the other hand, what appeared desperate measures have resulted in a progress to recovery unmarked by untoward incident.

The most striking example that has occurred in my personal experience is that of a young boy, whose case is the subject of this paper, on whom a series of operations has been made, each one of the series being serious, one of them exceedingly so, and at no time have the measures been followed by an untoward symptom.

NARRATION OF THE CASE.

History.—Nov. 5, 1901, the boy, aged 8, was admitted to the Samaritan Hospital. Feb. 28, 1901, he had fallen from another boy's shoulder, and two or three weeks thereafter a painless swelling developed in the right hypochondriac and lumbar



region. As it seemed to be cystic, a trochar had been introduced into the right loin with the result that the "cyst" was evacuated and a urinary fistula remained. Though he was weak, thin and anemic, he did not suffer pain, and entered the hospital mainly for relief from the annoyance of the displaced discharge of urine. An examination of the fluid escaping from the fistula showed it to be urine, faintly alkaline, with triple phosphates, while an examination of the urine from the bladder showed a few pus cells, was acid, slightly hazy, colorless, and a sp. gr. of 1022. He was subjected to radiography with the result shown in Fig. 1, wherein are shown two small calculi in the right kidney and one, somewhat larger, in the left.

There being no evidence of present injury from the calculus in the left kidney, it was decided to undertake a nephrotomy on the right side with a view to removal of probable obstruction of the ureter. In this conclusion I was in error, for the persistence of the fistula in the loin due to the simple introduction of a trochar should have suggested a wound of the pelvis of the kidney rather than through the kidney substance, for it is well known that injuries of the renal pelvis are com-

monly followed by incurable fistulae. This fact was well known to me, but the desirability for the removal of the possible influence of the calculi in maintaining the fistula prevented its due consideration, so on Nov. 15, 1901, a nephrotomy was undertaken.

Operation.—On reaching the kidney, that organ was found of normal size and consistency, but the fistula entered at the pelvis, and the upper portion of the ureter and pelvis were matted into the walls of an abscess cavity so that to recognize the parts and to separate them and make a probably successful effort to close the fistula seemed impracticable, while to open the kidney and remove the calculi, leaving the mutilated organ in the pus-producing field with an eventual permanent fistula, seemed worse than the picture of its removal. Though the error of operating first on the fistula side was at once painfully apparent, I proceeded to complete the operation by doing nephrectomy, hoping the calculus in the left kidney would continue its state of quiescence for a long period. The progress of convalescence was without an unpleasant symptom, the walls of the pus cavity having been removed as freely as practicable and the upper extremity of the ureter having been sutured toward the skin so as to secure a cavity favorable to healing.

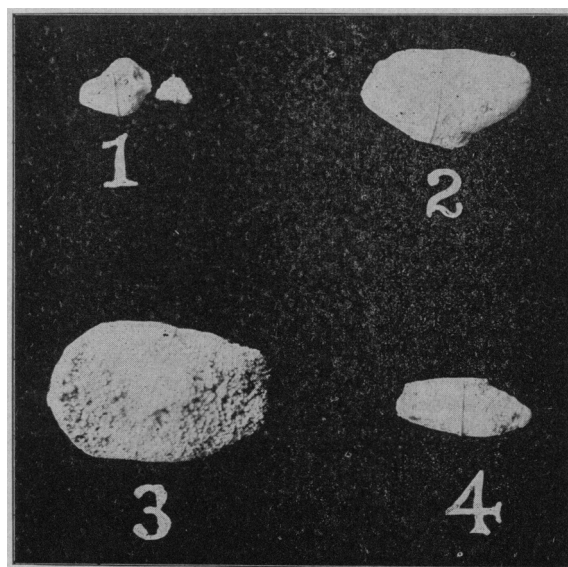
Second Operation.—On the afternoon of December 21, from a



state of freedom from pain and a condition of general well being, he suddenly was attacked with pain in the left renal, ureteral and the vesical regions, with anuria, proof that the calculus in the left kidney had entered the ureter and produced complete obstruction. When I arrived at the hospital on the morning of December 22, I found he had in that short time passed from a state of comfort and happiness to one of agony, with a pulse of about 180, and a temperature of nearly 104 F. The prospect of success in the severe mutilation of the one remaining kidney incident to the removal of the calculus, that was believed to be too large to pass through the ureter, was not such as to justify enthusiasm in the operation, but he was prepared promptly and the work was undertaken. After the kidney had been isolated so that palpation was available it was necessary to follow the ureter for slightly more than two inches before the stone was felt. It was practicable to carry the calculus up into the pelvis by upward pressure of the finger, and the problem of its extraction was considered. A long section did not seem to me advisable on account of the hemorrhage, which is always very free for a time, so steadying the calculus within the pelvis I guided a scalpel so as to make

a short longitudinal incision from the convex edge near the center of the organ and so that the pelvis was opened. Into this puncture, for such it was, I introduced forceps and, having felt the stone, opened the blades so as to enlarge the wound in a longitudinal direction. The hemorrhage even in this way was so great as to cause me to direct the immediate use of a normal salt solution into the connective tissue and rectum. In my efforts to grasp the stone I was each time defeated by its escape past my forceps into the upper calyx, and only after passing my finger into the pelvis and rupturing the partition between that and the pelvic end of the wound was I able to press the calculus into the region where I could catch it with forceps and remove it. A soft rubber tube was quickly placed into the pelvis and tape gauze packed around it so as to control hemorrhage, all being anchored to the parietes by sutures through the capsule so as to maintain hemostatic pressure. Though in profound shock from the hemorrhage and the severity of the operative procedure, again he was without untoward symptoms, the dreaded specter of anuria did not materialize, and in a short time he was able to sit up in bed and play with the holiday gifts that were rather freely showered on him.

Third Operation.—On February 2, when I returned to my office after a few hours' absence from the city, word came that he was in great pain and unable to pass urine, probably from a calculus in the urethra. As a shadow had been made in the radiograph suggestive of a vesical stone, though we then were not so confident in our reading of the pictures made by the x-ray, it was readily accepted as an explanation of the new



trouble. I directed that he be moved to the operating room and anesthetized, and on my arrival and examination a calculus was found in the fossa navicularis that required an incision at the meatus to extract.

Fourth Operation.—We now believed the quarry had been worked out, and as he was in every way comfortable, he was soon sent home, but after a little time reports of a return of dysuria and vesical pain justified his readmission, and another radiograph showed a vesical calculus (Fig. 2) of a size which seemed to demand a removal by suprapubic cystotomy. This was done on March 7, 1902, since which time he has been free from pain, gaining in every way without interruption.

I have gone concisely over the operative measures, leaving to the last the special reference to the calculi, and a consideration of the urinary conditions favoring their formation.

THE PROPHYLAXIS AGAINST CALCULI.

On his admission to the hospital in November, 1901, the urine was at first faintly acid, as it was occasionally thereafter; but the record usually showed that it was.

alkaline, even when fairly free from cloudiness. The specific gravity varied mainly between 1010 and 1020. This tendency to alkalinity even when no apparent organic ferment existed in the urine, showed the tendency to calculus formation at any point from the Malpighian bodies to the urethro-vesical orifice, and seemed to furnish an indication for treatment. To that end urotropin was given, even to a half dram in 24 hours and continued for some time, but without apparent influence. After the cystotomy the alkalinity was so marked that if protection from future calculus formation was to be secured other means than the use of urotropin seemed required, so a trial was made of methylene blue in 2 to 2½ grain doses, t. i. d., with the result that an acid reaction was soon secured. When the reaction became acid the drug was omitted, to be resumed again promptly on the reappearance of alkalinity, and it has been continued in that way to the present. Whether the fault in metabolism that results in the secretion of alkaline urine will pass away is the problem of special interest in the future of the case, for it is manifest that even this tolerant lad must have a limit to endurance of operative work.

THE POST-OPERATIVE MICTURITION.

A few words as to the amount of urine secreted after the nephrotomy may be of interest. During the time of the occlusion of the ureter, a period of nearly 18 hours, only about 3 drams was taken from the bladder, but during the following day 15 oz. came from the bladder, besides some drainage from the tube in the loin, and on the following day it increased to 33 oz., when the rubber tube was removed from the kidney as well as the gauze packing to allow a speedy repair of the renal wound, the packing being replaced in the loin wound for obvious reasons. The amount of drainage by the loin varied with an apparent corresponding variation of the urine by the urethra, which was from 6 to 30 oz. each 24 hours until January 6, when drainage from the loin had practically ceased and the chart for that operation was discontinued.

After the suprapubic cystotomy the drainage through the vesical tube varied from 20 to 30 oz. each 24 hours until after a few days the mural packing of gauze was so far removed as to allow much of the urine to escape by the side of the tube into the gauze fluff.

I do not find the date when the suprapubic wound closed, but I show you the patient with the sundry scars marking the sites of the operative procedures.

THE CALCULI PICTURED.

On the photographs you will observe the shadows made by the stones, the radiograph in Fig. 1 showing the two small shadows of the two calculi in the right kidney that had the fistula and was removed at the first operation, while the larger shadow is in the left kidney and marks the stone removed at the nephrotomy. In the pelvic region is a shadow that probably represents the stone removed from the urethra. In radiograph Fig. 2 is the sharp shadow of the vesical calculus removed by suprapubic cystotomy, which had probably formed since the taking of the former x-ray picture, an interval of four months. It is interesting to note the variation in the shadow effect in the renal regions in the two pictures, No. 2 being subsequent to the nephrectomy and nephrotomy.

In the photograph, Fig. 3, showing the calculi in one view, 1 represents the two found in the right kidney which was removed, 2 the one removed from the left kidney by nephrotomy, 4 that from the fossa navicularis,

and 3 that removed by suprapubic cystotomy. In this photograph the calculi are shown of the actual size, as also is the case in the original x-ray pictures.

THE SURGICAL TREATMENT OF COMPLICATED BUT ASEPTIC RETROVERSIONS OF THE UTERUS IN FRUITFUL WOMEN.

THE PERMANENT AND HARMLESS RESULTS THAT SHOULD CONSTITUTE THE NORMAL MINIMUM REQUIREMENT AND BY WHAT METHOD THEY ARE BEST OBTAINED.*

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It must be distinctly borne in mind that in this article we refer to the treatment of this disorder, only as it occurs during the childbearing period of women's lives; in women who should and can retain a probable capacity for conception. In patients of this class, it is our duty to correct these comparatively inferior disorders, not merely for some uncertain temporary period, but permanently, and, in doing so, also promote rather than compromise the patient's chances for maternity. These more ideal results are obtained only by a judicious selection and skilful use of only a few of the greater number of operations which are admissible for cases in whom the crucial test of pregnancy is not likely to occur.

Retroversion and flexion of the uterus, even with a moderate degree of adhesions and of degenerate conditions in its adnexæ, never causes death. It does not lead directly or indirectly to fatal conditions. Nor does it, independent of some more formidable complications, ever completely annul the value and enjoyment of life. Nor does surgery present the only, although the best, method of cure. For these clinical and for well-known anatomic reasons, this disorder with its ordinary complications never presents a major surgical indication for treatment. When major complications such as complete immobility of all the parts, or actively infectious conditions in the appendages, or neoplasms are also present, then these constitute the major and more positive indication; and the uterine displacement with some complications is an incidental and a minor indication. The relief from this disorder, then, is only a small or very moderate good that the patient derives. Therefore, the operation that secures it must not only be devoid of mortality and dare not impair the capacity and facility of the patient's reproductive functions or the anatomy and functions of other organs, but it must also be permanent in its results. This refers chiefly to the continuance of the normal position of the organs after subsequent pregnancies and deliveries at term.

As the good afforded by an operation for this disorder is but small in its present degree or amount, it must be long continued or for life, if it shall be sufficient to warrant an operation at all. And that this double test of pregnancy is not an unreasonable requirement is shown by the fact that such ideal results are quite uniformly obtained by one of the operations in vogue, whose advocates have carefully examined a large number of cases after one or several subsequent parturitions, and have found almost no case of recurring displacement among them. When we apply this only proper test of harmlessness during pregnancy and parturition, and

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