SURGICAL PROCEDURES IN GENERAL PRACTICE

This is one of a series of articles contributed by invitation

CHRONIC RETENTION OF URINE

BY

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Chronic retention may be complete or incomplete. Both are serious conditions, and treatment of them is of great importance and often vital. Retention which is incomplete is particularly liable to escape notice.

Illustrative Cases

A man aged 64 was in the habit of passing urine twice by day and once by night, and he was satisfied that the stream was good. He had felt sick and ill for a fortnight, but found it difficult to reconcile his failing health with the fact that he had recently gained 5 lb. in weight. On examination the bladder was found to be much distended, the fundus reaching to the costal margin. After partial catheter drainage had been established a residuum of 74 ounces was on one occasion withdrawn. The gain in weight was thus explained, since a pint of water weighs a pound and a quarter. A small but highly obstructive prostate was subsequently treated successfully by perurethral resection.

Such infrequent micturition is, however, uncommon when partial retention exists. More often the patient asserts that urination is too free, and that there is occasional incontinence of urine by day. More rarely, severe nocturnal incontinence occurs, a symptom which may cause the obstructive factor to be overlooked and therefore untreated.

A man aged 64 complained of nocturnal enuresis for three months. This occurred almost every night, and large amounts of urine were passed during sleep. His health had deteriorated so much that he had resigned from an important position in business. On bimanual examination the bladder was found to be much distended and there were 28 ounces of residual urine. He was treated by prostatectomy. Six months later he was in better health than for many years, and bitterly regretted that he had retired upon a pension.

Treatment

The treatment of patients suffering from chronic retention of urine is always a matter of anxiety. The bladder must be emptied, but with caution, since if this is done too precipitately uraemia may be induced, or if present it will be increased, for it is to be remembered that the kidneys of many patients suffering from chronic retention are already seriously damaged as a result of long-standing back pressure. The patient should therefore be carefully examined from this point of view. The history may reveal a loss of appetite, nausea, and thirst, and the tongue is often dry. A blood-urea estimation provides the most important evidence.

Drainage may be by the passage of a catheter two or three times in the twenty-four hours, half to three-quarters of a pint being withdrawn on each occasion, thus gradually emptying the bladder. But although this is one of the safest methods of treatment it is an experience which is unpleasant to the patient and imposes considerable demands upon the doctor in attendance, particularly as in a good many instances instrumentation tends to become more difficult. For these reasons a tied-in catheter with spigot will often be employed, the urine being drawn off at the rate already indicated until the bladder is emptied.

The plug can then be removed and the catheter allowed to drain continuously. These methods will usually avoid too rapid decompression, which may lead to uraemia or, less commonly, to haematuria. The following, however, describes a case in which they failed:

A man aged 77 had suffered from increased frequency of micturition for two years, and recently from nausea with occasional vomiting and loss of appetite. The prostate was considerably enlarged and the bladder distended to the umbilicus. A size 18 (Charrière) catheter was tied in the urethra with the intention of beginning gradual decompression, but as soon as the catheter was plugged the bladder emptied itself, the urine escaping round the instrument. When the bladder was washed out preparatory to refilling it considerable haematuria occurred, continuing for twenty-four hours; cystotomy was then performed. Two days later the blood urea, which had been 166 mg., had fallen slightly, but the count of red cells was now only $3\frac{1}{2}$ millions and the haemoglobin, 60 per cent. Haematuria continued for ten days, and was considered to be from vessels on the large intravesical projection of the prostate which had been recognized at cystotomy. It was arranged, therefore, to give a blood transfusion and perform prostatectomy. The patient, however, died under the anaesthetic.

At the necropsy the pelvis of the right kidney was found full of blood, which had leaked from a small tear in its substance into a calix, and there was also haemorrhage into the perinephric fat. The right ureter was dilated to the size of an index finger, and was full of blood. The left kidney contained much pus, and its ureter was dilated. There had been no bleeding from the bladder or prostate.

Such a case illustrates many of the dangers which have to be faced in treating chronic retention. The combination of old age, advanced structural damage, and infection makes such patients very poor surgical risks.

Cystotomy is often necessary, either as a step towards prostatectomy or as a means of permanent bladder drainage when further surgical treatment is prohibited by the patient's enfeebled state. However neatly and expeditiously the operation is performed, and however skilful the anaesthesia, there is always a high mortality, the average being about 15 per cent. Hiccup, nausea, vomiting, and diarrhoea are common, and are manifestations of the uraemia which so often leads to the patient's death. Local anaesthesia may be employed, but it does little to prevent the chest complications which frequently make their appearance.

In every case of chronic retention of urine there is a great need to establish and to maintain diuresis, since damaged kidneys are often incapable of forming a concentrated urine, and waste products can therefore only be excreted if the volume of it is abundant. Copious drinks must be taken—orangeade containing 5 per cent. glucose, water, tea, or fluids in any form which the patient fancies—in spite of the fact that this imposes a considerable strain upon the cardiovascular system. A continuous rectal drip of 5 per cent. glucose and one-fifth normal saline is of great value, particularly if flatulent distension makes drinking difficult; or ordinary water may be used with excellent effect.

Fluids given by continuous intravenous drip are of the greatest value in critical cases, the best form being a solution of one volume of normal saline to four volumes of 5 per cent. dextrose in distilled water (Avery Jones and

Naunton Morgan, *St. Bart's Hosp. Rep.*, 1938, **71**, p. 109). Every endeavour should be made to get the patient to take, by one means or another, a total of five to eight pints of fluid per twenty-four hours. If this can be achieved the outlook is favourable; if not, whatever may have been done to provide drainage for the bladder will often be in vain.

Acute Retention of Urine in the Female

This condition is most commonly due to an impacted fibroid or a retroverted gravid uterus, the latter usually occurring in the third month of pregnancy. The immediate treatment in either case is catheterization on one or more occasions, and as soon as the cause has been diagnosed this should receive appropriate treatment. Acute retention also occasionally complicates carcinoma of the cervix when the neck of the bladder has been involved. Catheterization with dilatation usually provides temporary relief.

Stricture of the urethra is a somewhat uncommon disease in the female, but is occasionally met with, giving rise to difficulty in micturition, which may lead to retention. It is treated by dilatation.

Retention of Urine in Children

This is liable to occur in male infants, being due to a pin-hole urinary meatus, and particularly when this becomes ulcerated. The act of micturition is very painful, and this causes the child to shrink from it, so that the bladder is not uncommonly found to be distended. The treatment is meatotomy with suture of the sides of the orifice to the remains of the prepuce, for the child will almost always have been circumcised in some earlier endeavour to produce a cure. If, after removal of the sutures, this is followed by dilatation of the meatus for a fortnight a cure will always be obtained. Other causes are congenital strictures of the urethra, or congenital valves in the posterior urethra. In these conditions there is usually chronic retention and uraemia, the bladder being greatly distended and the kidney function often damaged. Treatment is difficult and often dangerous, and includes dilatation of the stricture or destruction of the valves, cystotomy often being necessary. Phimosis is not a common cause of retention of urine, but should it occur the diagnosis is obvious and the treatment simple.

Non-mechanical Retention of Urine

Non-mechanical retention is seen in its commonest form following operations for piles or fissure, but may arise after any abdominal operation. In an endeavour to prevent it the patient should be encouraged to pass urine before six hours have elapsed. If unsuccessful and there is no discomfort a further period of six hours may be allowed before a catheter is passed. In the interval certain measures sometimes meet with success. One of these is to give an enema; another is for the patient to drink a tumblerful of cold water in which a small teaspoonful of boric acid has been dissolved. If his condition justifies it the use of a commode may enable the bladder to be emptied. In the female a hot compress may be applied just above the pubes and warm water may be gently poured from a jug over the vulva, the patient being on a bed-pan. Sneezing sometimes initiates micturition, and snuff is proffered with this object. A more modern method is the subcutaneous injection of 1 c.cm. of doryl, which is considered to have a specific action upon the bladder musculature; the dose may be repeated in half

to one hour. Frequently, however, a catheter is necessary: it should always be passed with strict asepsis. Once may be sufficient, but in spite of all stimulants to spontaneous micturition retention may persist for several days, making catheterization necessary four or more times in every twenty-four hours. If so hexamine should be given and the bladder washed out with a tepid solution of oxycyanide of mercury 1 in 6,000 in an endeavour to prevent the infection which is otherwise so likely to occur. In hysterical retention any of the above measures may be tried, and doryl may be found effective; the use of the catheter should be avoided if possible.

Chronic retention of urine sometimes occurs in tabes and disseminated sclerosis: the onset is insidious, and the volume of residual urine is often large without uraemia being present. Cystotomy should be avoided where possible, and is strongly contraindicated in the latter disease. Intermittent catheterization is the best treatment if any is required, and may lead to a considerable recovery in bladder function.

MANCHESTER'S HOSPITAL SERVICES

VISIT BY THE MINISTER OF HEALTH

The Minister of Health, Dr. Walter Elliot, visited Manchester on Friday, January 20. He formally opened a new orthopaedic block at the Manchester Royal Infirmary and a new extension at St. Mary's Hospital for Women and Children. A less formal visit was paid to the Christie Hospital and Holt Radium Institute, and finally Dr. Elliot addressed a meeting at the Town Hall and discussed the problems which might face the city's medical services in the event of war.

New Orthopaedic Block

The new orthopaedic block at the Infirmary is the first concrete, or rather ferro-concrete, result of the co-ordination of the city's hospital services which has been taking place under the aegis of the Manchester Joint Hospitals Advisory Board during the last three years. Dr. Elliot, after a brief review of the pioneer history of the Infirmary, expressed his pleasure in giving public recognition to one of the schemes of co-ordination fostered by the Joint Hospitals Advisory Board. The Board, to which he referred with appreciation as the first of its kind in the country, merited the most sincere congratulation on the remarkable work which it had initiated and in some respects already completed. The work done in unifying the efforts and resources of the voluntary and municipal hospitals was of great importance, and he was especially pleased by the fact that among other members of the Board were representatives of the medical school of the University, so that medical education in the city also comes within its sphere of influence. The new orthopaedic block itself, he said, represented the work of an almost ideal combination that should serve as a model for the country and as a focus of regional hospital service such as was envisaged in the official recommendations of a recent committee (Lord Cave's). The new department was fully equipped to provide for all stages of fracture treatment from first aid to rehabilitation, and was a valuable contribution towards national life in that it would ensure the return of the injured person to full economic vigour at the earliest possible date. After a vote of thanks, proposed by Professor J. S. B. Stopford, vice-chancellor of the University, and seconded by Mr. Harry Platt, the Minister inspected and formally opened the new building.