

Section of Urology

President Thomas Moore MS

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President's Address

Urology Yesterday, Today and Tomorrow [*Abridged*]

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YESTERDAY

The art and practice of urology is very old. Medical historians regard it as the first branch of medicine to emerge from the clouds of ignorance in prehistoric times (Garrison 1929). Study of the urine was one of the earliest of medical investigations and probably the beginning of clinical pathology: when the underlying basis of most diseases was not known, rational treatment was impossible. Only in conditions of a mechanical nature, such as vesical calculus and fractures, was the necessary treatment obvious.

There is no doubt that bladder stones have afflicted man for centuries and many examples have been found in Egyptian mummies (Joly 1929). Cutting for stone has a very long history and is mentioned in the Hippocratic oath; the oldest record of the operation, known as 'cutting on the gripe' is by Celsus (Cope 1953). These untrained specialists were not accepted in formal medical circles, then controlled by the monks; only during the last three centuries have qualified medical personnel practised the art. In those bygone ages lithotomists kept the spark of surgery alive (Melicow 1968). Itinerant lithotomists travelled the world and there are many historical examples of their triumphs and failures. In the fourteenth century one Colot obtained permission from Louis XI of France to demonstrate his lithotritic skill on a condemned criminal. The operation was carried out in a graveyard in the King's presence. The great success of this procedure not only saved the patient's life and led to his pardon but brought Colot great fame. He was appointed royal lithotomist and established a School of Litho-

tomists in France which lasted for 300 years (Garrison 1929). This art, so common in the Middle East, India and Europe, eventually spread to Britain where Cheselden (1688-1752) of St Thomas's Hospital was one of our earliest and most famous practitioners.

These pioneers were specialists in a small branch of urology but we can regard them as our predecessors. Specialization in the practice of urology has been the rule in Europe and the United States of America for nearly a hundred years. In recent times there has been a movement here to recognize it as a specialty. This Section of the Royal Society of Medicine was founded in 1920, and in 1945 the British Association of Urological Surgeons was formed. We are all agreed that when some surgeons confine themselves to the practice of urology, the standards of diagnosis and treatment are greatly improved.

Recently one of my predecessors (Hanley 1965) devoted his Presidential Address to the practice of urology as a specialty, stressing its importance from all points of view. He particularly emphasized its scope and its many associations with other systems. His Address made one realize how general a urologist has to be in his training; there are so many other systems affected by what is apparently a primary urological disease. Nature is not restrictive; all systems are integrated with others. Disease of one is often brought to light by symptoms of dysfunction in another, and disorder in one system may have its most severe and often lethal effect because of associated disturbances in others. Therefore I believe it essential that anyone confining himself to the practice of urology must have an extensive general training, including general medicine, physiology and pathology. Osler's dictum, 'As is our pathology so is our practice', is still true but it might now be more usefully stated: 'As is our pathophysiology so is our practice'. It is surely wrong to restrict the general training of anyone

whose final goal is urology. Without general experience pure urologists must be poor urologists. A recent personal experience demonstrates how general these problems may be:

Case 1 Mrs I K, aged 62

20.8.68: Complaining of attacks of upper abdominal and right loin pain, nausea, vomiting and jaundice. Clinical and biochemical investigations suggested biliary tract disease. The double-dose oral cholecystogram showed a nonfunctioning gall-bladder and on some of the films it was apparent that a right hydronephrosis was present. IVU confirmed the right hydronephrosis and hydroureter down to the level of the lower border of the right sacroiliac joint. Right ureteric catheterization revealed an obstruction at 12 cm from the bladder, and the retrograde ureterogram confirmed that at and above this level the ureter was obstructed and expanded by an intraluminal lesion (Fig 1). Under anaesthesia a small hard mass could be felt at this level.

At operation (13.9.68) a carcinoma of the caecum involving and obstructing the right ureter, and a carcinoma of the gall-bladder, secondary to a large solitary calculus, invading the hepatic flexure and liver were found. Right hemicolectomy with end-to-end anastomosis, cholecystectomy and right nephroureterectomy were carried out. The patient made good progress and was discharged well.

Histologically 3 separate carcinomas were present: (1) A well-differentiated carcinoma of caecum. (2) A transitional cell carcinoma of the right ureter. (3) An adenocarcinoma of the gall-bladder.

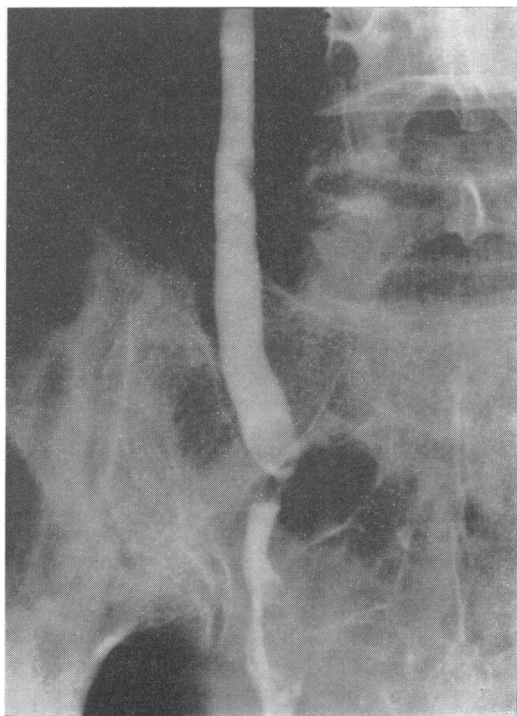


Fig 1 *Retrograde ureterogram*

This was perhaps an unusual case but many urological problems have associated changes in other systems. Intestinal lesions, inflammatory or neoplastic, frequently involve the urinary tract. Urologists must have a general surgical training, because any surgeon opening the abdomen must be able to deal with all the lesions he finds. It is interesting to reflect that the complications and death rate after radical surgery for carcinoma of the bladder are more related to defects in intestinal anastomoses than in the urological procedure.

As the exclusive skill of the urologist is endoscopic expertise, any surgeon bent on such a career should start learning endoscopic techniques from the start, whether he is working in a pure urological centre or not. As in other disciplines, practice makes perfect.

Those itinerant lithotomists, our forebears, were pure specialists and not recognized by the profession because they were too restrictive in their practice. Let us not therefore again allow the specialty to be so degraded. It is the most exciting of all to practise. May its practitioners in the United Kingdom always be medical graduates of the highest competence and learning.

TODAY

Our first President, Sir Peter Freyer, is famous as a pioneer of prostatectomy. It would, therefore, not seem inappropriate to direct my remarks on today's practice to this organ. Most of us, unlike Freyer, now know that the prostate is a structure not confined to the male sex (Moore 1953, 1960, 1961) and that even today we have no precise knowledge of its specific function.

The excellent work of Stamey *et al.* (1968) on the antimicrobial substance it produces suggests that one of its functions is that of a sentry at the bladder-neck against bacterial invaders. In both sexes, however, it is a common site of pathological change, inflammatory and neoplastic. Today the practice of urology is well established and orthodox; the results of treatment of all types of disease in all centres are of much the same high standard. In considering prostatic disease I will confine myself to aspects which I believe are not generally understood or where present practice, in my view, is sometimes erroneous.

Inflammatory Lesions in the Female

Recurrent attacks of inflammation of the lower urinary tract are extremely common in the female, often diagnosed as recurrent cystitis, more recently as the urethral syndrome or female prostatitis. Investigation of many hundreds of cases has convinced me that the lesion starts in the urethra and is often an infection, possibly sometimes of viral origin. The essential

investigation for diagnosis is the urethrovessical differential urinary cell and bacterial count (Moore & Hira 1965, Moore *et al.* 1965). The basis of this test as now used by me is the counting of the number of inflammatory cells per millilitre in the first few millilitres of urine passed, and comparing the result with the number of inflammatory cells per millilitre in a few millilitres of the midstream urine. Where facilities are available the test is more complete if bacterial counts are done as well. In the active phase of the disease a marked increase in the white blood cell count of the first specimen above the normal 5,000 cells/ml is found. Curiously enough, pathogenic bacteria are found in less than 50% of cases; in many the causative agent may be a virus. This simple test is a *sine qua non* of accurate diagnosis of lesions of the female urinary tract. In most cases of lower urinary tract infections in which the lesion is still confined to the urethra and paraurethral glands (female prostatitis) the midstream specimen is normal. The technique for collection of specimens for differential cell counts is important and steps must be taken to prevent contamination with vaginal secretion. It is also interesting in these cases to carry out vestibular cultures. Often the organism (usually *E. coli*) has established a breeding ground there (Stamey 1968, personal communication), but so far our work has not confirmed Stamey's suggestion that this occurs in every case.

Inflammatory Lesions in the Male

I believe that all primary lower urinary tract infections in the male start in the posterior urethra and prostate, as in the female. Apart from routine clinical and specialized investigations used in urological diagnosis a similar simple test is essential for accurate localization. With the prepuce retracted and cleaned, a few millilitres of (1) the first urine passed, (2) the midstream urine and (3) that passed after standard prostatic massage are examined for inflammatory cell content and bacterial culture (Moore & Staff 1967). In normal men the count in any specimen does not exceed 1,000 cells/ml. In infected cases there is a great increase in the count in the first or third specimens, or both. Where the infection has spread to the bladder all specimens show a similarly increased count. This test is the crux of diagnosis and should be used as a routine.

Clinical prostatitis in the male presents in much the same way as in the female and similarly in a large proportion of the cases no bacterial cause is found. The infection is usually associated with much more general symptoms than in the female and occurs more commonly in slightly older age groups. Many prostates affected may already be the site of adenomatous hyperplasia. The great increase in urinary symptoms, both

irritative and obstructive, may mislead the clinician into thinking that acute retention of urine due solely to simple hyperplasia is occurring. It is important that the acute inflammatory reaction in the prostate should be recognized by these differential urinary cell counts, and operation where necessary carried out only after infection has subsided.

In both sexes I believe that the infection is an ascending one along the urethra. Clinically the life history of these cases is a replica of those secondary to a clinical urethritis in which the organisms grow along the urethra.

Neoplastic Disease in the Male

Simple: Although the cause is still not clear this adenomatous fibromuscular hyperplasia is the commonest cause of urinary obstruction in the male. It is important to estimate the size and mechanical effects of the enlarged gland. The more rectal examinations one carries out the more one realizes how impossible it is to estimate the size, shape and effect of the prostate by this method alone. Endoscopic changes found may differ fundamentally from what one would expect from rectal examination. To assess accurately the size and effects of the enlarged gland on micturition, one must correlate the findings of clinical examination with direct-vision endoscopy. By this means one can assess one's ability to resect the lesion adequately in one session.

In patients suffering from prostatism or acute retention of urine the results of treatment in all centres are very good. In chronic retention the final result depends upon the degree of irrecoverable renal dysfunction. Studies of cases of chronic retention in my Unit show that about one-third of these did not complain of urinary symptoms and thus came for treatment very late. On direct enquiry at least half had no urinary symptoms at all. This syndrome of symptomless prostatic obstruction accounts for about 18% of all cases of chronic retention of urine and 4% of all cases of obstructive prostatic disease. They are often mistakenly referred because the most prominent symptom suggests disease in other systems. In half the cases the distended bladder is discovered on clinical examination for some other complaint. The incidence of severe renal dysfunction in those cases is much higher (50%) than in chronic retention of urine with urinary symptoms (20%).

It is important, in cases of prostatism where operation is not advised, to carry out a regular and careful follow up, so that the silent development of chronic retention is not missed. Chapman (1949) reviewed 129 cases not operated upon and followed up to ten years. In only one instance did he think harm might have been due to conserva-

tism. A recent experience, however, has reminded me how important it is to see that such patients are regularly followed up. It is surprising how satisfied a patient with prostatic obstruction can be with his micturition performance. I have known patients, whose bladder contained more than 1 litre of residual urine, still pass as much as 2 litres of urine per day.

The results in cases of chronic retention with uræmia are, I believe, much worse than is generally admitted. There is little difference in the immediate mortality, but long-term follow up, which I suppose few carry out, reveals the true results. Our experience is that 55% are satisfactory after operation, renal function returning to normal or an acceptable level, and that death when it occurs is from non-related causes; 25%, however, continue to have evidence of urological disease, either recurrent infection, renal dysfunction or a combination. Although they may live comfortably for some years they are not fully fit. Another 20% die within 5 years from renal failure. The degree of renal destruction before treatment is the essential factor in most cases, and the renal tissue which has been lost cannot be restored even when the dynamics of the lower urinary tract have returned to normal. In a few, atony of the bladder allows a large amount of residual urine to remain in spite of the primary obstruction having been relieved. In such cases the Hamilton Stewart bladder-reduction operation may give good results (Stewart 1966).

In malignant cases, which amount to 20%, in addition to the hazards of urinary infection and renal failure there is the hazard of the neoplasm.

A disease of older age groups, prostatism is almost always associated with degenerative cardiovascular disease, adding an additional hazard to surgical treatment. That it is so frequently successfully overcome is well illustrated by the remark of one of my previous assistants: 'After working with you I now know that the best treatment of cardiac failure is prostatectomy!'

Sometimes prostatectomy may be necessary in a patient kept alive only because of the skill and knowledge of colleagues in another specialty, e.g. hæmatology.

Case 2 Prostatectomy in a Hæmophilic

Mr T B, aged 71

History: First seen in the Department of Hæmatology, Manchester Royal Infirmary, in 1950. Known to be a bleeder since infancy. Had many hæmarthroses in both knees and more recently in both elbows. Five episodes of hæmaturia in 10 years. One episode of intestinal obstruction. Diagnosis of hæmophilia confirmed by prolonged clotting time, thromboplastin generation test and assay of antihæmophilic factor (AHF) less than 1% of normal. June 1966: Retroperitoneal hæmatoma caused oliguria. Hb fell from 10.7 to 5.2 g/100 ml. Blood urea 130 mg/100 ml. Treated with

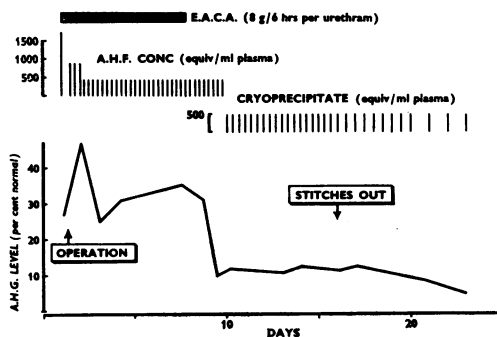


Fig 2 Composite diagram of anti-hæmophilic treatment

porcine AHF 250 units 6-hourly for 5 days. 1967: Further epistaxis treated with human AFH equivalent to 500 ml of plasma three times a day for 4 days. Started on methyl dopa 250 mg daily for hypertension.

Family history: Two maternal uncles died from bleeding. Grandson a known hæmophilic.

28.2.68: Could not pass urine; treated by indwelling catheter for 4 days but still could not pass urine; catheter replaced. Investigations showed moderate simple prostatic enlargement.

12.3.68: Cystoscopy showed marked middle lobe and intravesical lateral lobe prostatic enlargement with considerable elongation of the urethra. Transvesical prostatectomy was carried out and great care taken to stop bleeding from the prostatic cavity by sutures. At no time did the Hb fall below 10 g/100 ml and no blood transfusion was required. The total amount of AHF used was equivalent to 18 litres of plasma and of cryoprecipitate 15 litres, in all equivalent to 33 litres of plasma.

The patient made excellent progress and I think bleeding was probably less than after most prostatectomies.

Details of treatment are shown in Fig 2.

The patient was discharged home on 11.4.68 and could pass urine well. The urine was clear and free from infection. He returned to hospital on 27.5.68 due to further hæmaturia. At that time he had a curious reaction in his wound, vesicles and inflamed areas appearing. I had no doubt that this was a reaction to catgut and imagined that the same reactions were occurring in the prostatic cavity, and hence the hæmaturia. With further antihæmophilic treatment and control of infection the condition settled and he was discharged on 3.5.68 and has since had no urinary trouble.

To the best of my knowledge this is the first hæmophilic in this country to have had a successful prostatectomy.

Malignant disease of the prostate: This condition is usually brought to light by local symptoms which differ little, except for dysuria, from those caused by simple enlargement, or by metastases to well-recognized sites (usually the lumbar spine and pelvis, causing referred pain). I have been

impressed, however, by the unusual presentation of the disease in some cases, of which the following are examples:

(1) *Renal failure*: The mechanism of renal dysfunction in carcinoma of the prostate in most cases does not differ from that resulting from simple obstruction, namely a large amount of residual urine with increasing dilatation of the upper urinary tract. In malignant cases, however, it is possible for the disease to involve the lower ureters and cause renal failure without bladder neck obstruction. One must be on the lookout for such cases. An even more unusual finding, however, is the fact that the prostate itself may differ little from normal and yet a small focus of disease may extend through the capsule and involve the pelvic cellular tissues. Spread may then occur retroperitoneally and the ureters be obstructed at a higher level. The whole syndrome may simulate retroperitoneal fibrosis, and anuria may occur. So far I have seen 4 such cases due to carcinoma of the prostate but a similar syndrome can be caused by retroperitoneal extension from other malignant lesions, particularly those of the pancreas and the kidney.

Case 3 Mr J D, aged 80

10.11.64: In medical ward with generalized pruritus, thirst, polyuria and loss of weight.

On examination: General condition good for his age. Blood pressure 200/110. Hb 11.7 g/100 ml. ESR 51 mm in 1 h (Wintrobe). Blood urea 81 mg/100 ml. Urine normal. IVU showed no function.

5.12.64: Referred to me as a case of prostatic hypertrophy. Per rectum, large simple prostate. No residual urine. Presumed to have primary renal disease. Radioactive renogram: right kidney, no function; left kidney, poor function with obstruction. Drip infusion urogram: kidneys normal size; right kidney, no function; left kidney, dilated calyces, pelvis and upper ureter. Cystoscopy: no residual urine; some middle and intraurethral lateral lobe prostatic enlargement. Bilateral retrograde pyelograms: bilateral ureteric obstruction in lumbar area.

Operation on left side (11.5.65): No appearance of retroperitoneal fibrosis. Some retroperitoneal oedema. Block at fourth lumbar vertebra. Thickened ureter below this was freed and displaced laterally.

Histology: Fibrous tissue only.

The patient improved and on 15.6.65 the right side was explored. Ureter generally infiltrated with tissue, could not be separated. A portion was removed and terminal ureterostomy performed. No urine was ever produced by this kidney.

Histochemistry: Tissue contained acid phosphatase in large quantities.

Histology: Carcinoma of the prostate.

The patient was treated with oestrogens and lived a comfortable life although he still had polyuria.

21.10.67: Death from uraemia. No autopsy allowed.

(2) *Superior vena caval obstruction*
(Case 4):

Case 4 Mr A G D, aged 52

Seen 24.2.64 with intermittent swelling of neck, orthopnoea, dyspnoea on moderate exertion and a tight feeling in the chest. He had an obvious superior vena caval obstruction.

A chest X-ray showed widening of the mediastinal shadow and carcinoma of bronchus was suspected. Bronchoscopy showed only deviation of the trachea to the left. Retention of urine followed.

Examination per rectum showed carcinoma of prostate. Serum acid phosphatase normal.

He was treated by transurethral prostatectomy and bilateral orchidectomy. Post-operatively he developed a right chylous pleural effusion which was tapped twice. He was given one dose of palliative X-ray treatment to the chest.

The patient made excellent progress on stilboestrol 30 mg per day and was symptom free until March 1967 when urinary symptoms recurred. Further transurethral prostatectomy became necessary in October 1967 and he died on 2.12.67.

(3) *Abdominal mass with general symptoms*
(Case 5):

Case 5 Mr R R, aged 60

7.12.67: Admitted for investigation.

History: Right hemiplegia with complete recovery four years before. Swelling of left leg fourteen months before, with recovery. Intermittent jaundice for twelve months, now disappearing; loss of weight and general weakness. No urinary symptoms.

On examination: General condition poor. Mass in left iliac fossa. Liver enlarged. Marked dilatation of a transverse suprapubic subcutaneous vein as described by Jardine (1941), present in cases in which the hypogastric veins have not been obliterated beyond the level of the superior vesical vessels, commonly dilated in advanced carcinoma of the prostate. Barium enema and meal normal.

Per rectum the prostate feels normal; mass in left iliac fossa appears to be continuous with left vesicular region. Serum acid phosphatase 65 units/100 ml. Hb 48 g/100 ml.

Treatment with transfusions and intravenous stilboestrol diphosphate produced marked immediate abdominal improvement and he was discharged, but he relapsed and died in two months.

Autopsy findings: Acute left pyelonephritis with left-sided hydronephrosis due to carcinoma of prostate obstructing lower part of ureter from without. Prostate itself not remarkable. Old thrombosis of left popliteal vein. Old infarcts of pons and left parietal cortex. Severe atheroma circle of Willis. Generalized atherosclerosis. Left ventricular hypertrophy. Chronic calculous cholecystitis. Skeletal and lymph-node deposits.

(4) Cases with rectal symptoms are not uncommon; there may be no urinary symptoms of any kind:

Case 6 Mr R W, aged 69

12.9.68: History of diarrhoea, particularly in the mornings, and of feeling incompletely empty after defaecation. Some colicky lower abdominal pain. Lost 8 lb (3.6 kg) weight in three months. Some micturition trouble for six months; nocturia $\times 4$.

On examination: General condition fair. Normotensive. Per rectum, small simple prostate. Hard mass arising from just above left lobe projects into rectum, passing along and round it to form a narrowing at pelvirectal junction. Cystoscopy and transurethral prostatectomy confirmed carcinoma of prostate.

Treatment by orchidectomy and stilbæstrol diphosphate. Symptoms improved rapidly.

(5) Gross hepatomegaly (Case 7):**Case 7 Mr J P, aged 67**

24.12.66: Acute retention of urine.

Per rectum, carcinoma prostate. Serum acid phosphatase normal. Cystoscopy, transurethral prostatectomy, bilateral orchidectomy. 100 mg stilbæstrol daily. Good progress.

11.1.68: Pain in right hypochondrium. Examination revealed gross hepatomegaly. No urinary symptoms.

He was treated with 14,000 mg stilbæstrol diphosphate intravenously in fourteen days followed by 600 mg daily by mouth; there was no improvement in symptoms and he died on 2.8.68. At autopsy the liver was the site of multiple metastases and weighed 6,400 g. Histology confirmed that the metastases were prostatic in origin.

The orthodox treatment of carcinoma of the prostate is: (1) To confirm the diagnosis and remove the obstruction by transurethral resection. (2) To bring about the right hormonal environment; I believe this is best done by orchidectomy. In patients with an epididymal cyst I have often removed the testis and left the cyst to simulate a testis. This was so successful that I now always remove only the testis, leaving the epididymis and rolling it into a rounded structure. This method is of considerable value as there is no chance of a hæmatoma if the operation is carried out correctly. It is advisable, however, to tie the vas away from the epididymis to stop recurrent epididymitis after operation.

In 1967 the Veterans Administration Co-operative Urological Research Group in the United States of America compared the results of different schedules of treatment in a large series of cases (Mellinger *et al.* 1967). They concluded that many patients die as a result of oestrogen treatment and not from the primary disease. All experienced clinicians, however, agree that the results of treatment with hormones are much better than without, and although our figures suggest that most patients do not do as well as we think, not living more than 2–3 years, we all have experience of many who have lived much longer. However, this does not blind me to

the fact that this is the only malignant lesion in the body in which eradication is not the foundation of treatment. We all realize that in most cases the disease has already progressed beyond the bounds of surgery. However, I have had experience of treating patients in their early 50s with malignant disease of the prostate who have not responded to hormone therapy and have regretted that I had not attempted radical surgery from the beginning. Although the numbers of patients requiring this may be limited I am sure we ought to be more radical, particularly in the younger patient. Good results may possibly be obtained after hormonal treatment has reduced the size of the neoplasm. Although one recognizes the hazard of slightly impaired micturition in such cases, at least if recurrence develops the patient does not suffer from intolerable local symptoms.

Bladder Neck Obstruction in the Female – The Female Prostate

In 1960 I reported my experience of 33 cases of bladder neck obstruction in the female. I have traced a further 39 cases treated since. Classifying these in the same way as the previous 33 cases, the clinical presentations were as follows: Prostatism 12, acute retention 4, chronic retention 5, cystitis 10, hæmaturia 2, uræmia 3, post-operative 2, abdominal tumour 1. Age incidence is shown in Fig 3.

In 32 cases transurethral resection of the bladder neck was carried out and 7 were treated by cystoscopy and urethral dilatation only. All patients were relieved of their urinary obstruction by the procedures but long follow up showed 6 unsatisfactory results. In 3 of these it was considered that there was a psychological problem

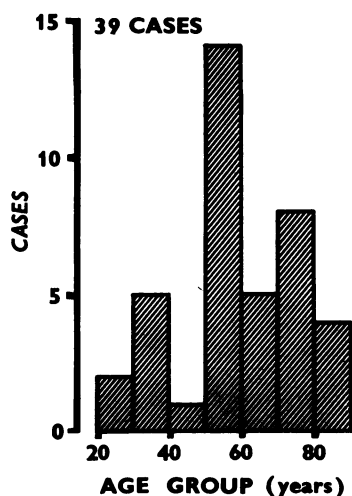


Fig 3 Age incidence of bladder neck obstruction in the female

present. One patient of 85, although relieved of her inability to pass urine, did not seem to realize it was not good to pass it into the bed. She eventually died some months later from bronchopneumonia. Two younger patients had a long previous psychiatric history and still made some complaint of their urinary tracts. In 2 patients further obstruction occurred within two years and in each case this had been due to the development of a urethral stricture; these are being satisfactorily treated by regular dilatation. In the female also, sometimes due to gross overdistension of the bladder, much residual urine may remain even though the obstruction at the bladder neck has been removed.

Case 8 Mrs M S, aged 53

June 1965: Chronic retention of urine (3 litres). Bilateral upper urinary tract dilatation. Transurethral 'prostatectomy'; 3 g tissue removed. Fibromuscular with acute and chronic inflammatory change. Good progress.

September 1965: Right pyelonephritis, much residual urine, infected with *E. coli*. Treated. Indwelling urethral catheter. Cystometry: atonic bladder. Further cystoscopy showed no obstruction at bladder neck. Extensive partial cystectomy and V-Y-plasty of bladder neck. Histology: thin fibrous bladder wall.

June 1966: Very well. No urinary trouble. No infection. Residual urine 6 oz (175 ml). Upper urinary tract dilatation much improved.

At a recent urological symposium a distinguished gynaecologist expressed the opinion that there was not such a condition as bladder neck obstruction in the female and that there were no glands round the proximal urethra. Fig 4 shows the appearances of the bladder neck in one of my cases which is reported by the pathologist as showing benign prostatic hypertrophy. Such marked hypertrophy of the glands, however, is unusual and the appearances of the resected tissue of the bladder neck in my first 45 cases have been reported by Corrin *et al.* (1963).

As in all other types of surgical work diagnosis is the crux of all accurate treatment. I have previously detailed the various lesions which can cause urethral obstruction (Moore 1960). Similarly I pointed out the difficulty of distinguishing a primary bladder neck obstruction from a neuropathic lesion. During the treatment of these patients many referred cases were found to have unsuspected neurological lesions and are therefore not included in these results. Other cases, 3 or 4 in number, have had an atonic bladder (? neuropathic) treated by bladder neck resection in the hope that this would act as a nidus of irritation and stir the bladder to reflex activity. Emmett & Love (1967, 1968) reported similar cases cured by removal of an unsuspected prolapsed intervertebral disc. On anatomical grounds

it is difficult to understand the mechanism of interference with the nerve supply to the bladder by a disc protrusion. So far I have failed to persuade my neurosurgical colleagues to explore such a case. One reason for their cynicism is the rare likelihood of removal of a longstanding neurological lesion resulting in immediate and dramatic cure.

TOMORROW

What of tomorrow? No doubt renal transplantation will be much more frequently performed with corresponding improvement both in surgical technique and in prevention of rejection. As, however, the rejection mechanism has taken billions of years to develop I much doubt if it will ever be completely eradicated. It will, therefore, be more than ever important that the practice of urology should be carried out by well-trained graduates, so that early diagnosis will prevent the later development of renal failure. One's own kidneys, even though a little diseased, are always likely to remain more valuable than any donation. Transplantation, to be of practical value, will have to be performed eventually as a routine and nursed in general surgical and urological wards. Until this stage arrives it will contribute little or nothing to general health and happiness.

The ability to study growing biopsy specimens of malignant tissue in the laboratory, and to assess sensitivity to hormonal control, chemotherapy and deep X-ray therapy is a hope for the

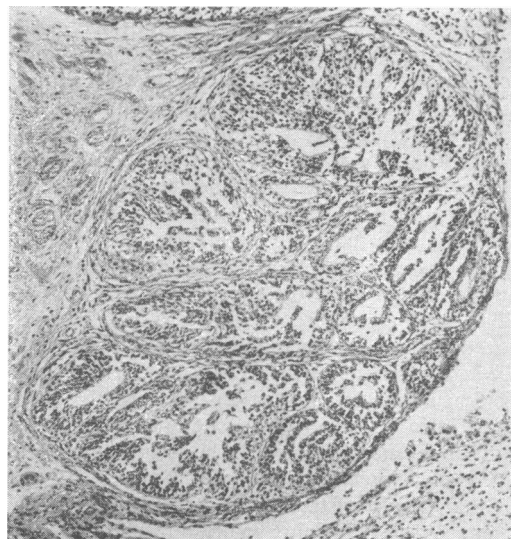


Fig 4 Microphotograph of tissue removed from bladder neck in a case of female bladder neck obstruction, showing the hypertrophied glands simulating the male prostate. $\times 43$

future. If fulfilled, the treatment of malignant disease would become much more precise and probably more successful. The technique of freezing semen used in the animal world might well be applied to human beings and, if collected before treatment, would be of great value to patients rendered sterile by successful radiation therapy for testicular tumours. In the unhappy event of general atomic warfare such methods might play a useful part in preserving normal human spermatozoa.

Probably the most unsatisfactory aspect of medical practice today is female urology. Mrs X who complains of some indefinite urinary symptoms is referred by her GP to a local gynaecologist. Examination discloses some degree of prolapse and she is advised to have operative repair. Afterwards she suffers from intense urinary symptoms and her final condition is much worse than the first. Eventually she has to be referred to a urologist for diagnosis and treatment of the underlying urinary disease, often female prostatitis. Mrs Y, on the other hand, who has some low back-ache and slight urinary symptoms is referred to a urologist who carries out detailed genitourinary investigations, excepting differential urethrovessical urinary cell count, and finds no urological lesion. The patient has some uterine prolapse and cystocele, but he has no knowledge of the life history of this condition or training in its treatment. Thus today we have the position of a female patient complaining of urinary symptoms being referred to a gynaecologist who has no knowledge or training in urology or to a urologist who has no knowledge or training in gynaecology.

Many argue that this difficulty can be overcome by co-operation between urologist and gynaecologist. This is already the case in many centres, including mine, both in hospital and in private practice. Nevertheless, as too many cooks spoil the broth so do too many doctors miss the diagnosis. Obviously it would be much more efficient and safe if the specialist to whom the patient is referred were expert in both systems which are so intimately connected. In more rational days I hope the specialty of gynaecology will disappear. There is no valid reason why obstetrics and gynaecology should be linked. The obstetrician performs a most useful and necessary function in society and should be a specialist in his own right, as he often is, but this knowledge and skill have little or no connexion with gynaecological theory and practice.

The urologist of tomorrow will, I hope, after a general surgical training make himself expert in the diagnosis and treatment of diseases of the genital and urinary tracts of both sexes. By his diagnostic and therapeutic expertise he will play a major role in the prevention of renal failure.

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REFERENCES

- Chapman T L (1949) *Lancet* ii, 684
 Cope Z (1953) William Cheselden. Edinburgh & London
 Corrin B, Mayor D & Moore T (1963) *J. Urol. (Baltimore)* **90**, 434
 Emmett J L & Love J G
 (1967) *Proc. Mayo Clin.* **42**, 249
 (1968) *J. Urol. (Baltimore)* **99**, 597
 Freyer P (1920) *Proc. roy. Soc. Med.* **14**, Sect. Urol. p 1
 Garrison F H (1929) An Introduction to the History of Medicine. 4th ed. Philadelphia & London
 Hanley H G (1965) *Proc. roy. Soc. Med.* **58**, 49
 Jardine F E (1941) *Edinb. med. J.* **48**, 173
 Joly J S (1929) Stone and Calculous Disease of the Urinary Organs. London
 Melicow M M (1968) *Urol. Surv.* **18**, 199
 Mellinger G T et al. (1967) *Surg. Gynec. Obstet.* **124**, 1011
 Moore T
 (1953) *Proc. roy. Soc. Med.* **46**, 558
 (1960) *Lancet* i, 1305
 (1961) *XII Congr. Soc. int. Urol.* **2**, 363
 Moore T & Hira N R (1965) *Brit. J. Urol.* **37**, 25
 Moore T, Hira N R & Stirland R M (1965) *Lancet* i, 626
 Moore T & Staff W G (1967) *Lancet* i, 812
 Stamey T A, Fair W R, Timothy M M & Chung H K
 (1968) *Nature (Lond.)* **218**, 444
 Stewart H H (1966) *Brit. J. Urol.* **38**, 685

Meeting November 28 1968

The following cases were presented:

Nephrogenic Adenoma of Bladder

Mr A E Kulatilake

Hypernephroma as a Cause of Hypertension

Mr M D Ram

(for Mr G D Chisholm and Dr John Lister)

Scanning Electron Microscopy Applied to Healthy and Diseased Transitional Cells

Mr R E Williams, Professor E H Cooper and Dr P B Hodgson

Anteropositioning of Horseshoe Kidney – Eight Years Post-operatively – Demonstration of New Technique

Mr D W Bracey

Staghorn Calculus in Mucus-secreting Kidney Due to Pyelitis Glandularis

Mr John C B Serjeant

Perforation of the Bladder Complicating Peritoneal Catheter Insertion

Mr R M Jameson, Mr E P Simkin and Dr F K Wright

Seminoma and Fibrous Lesion in the Testis Associated with Trophoblastic Metastases

Mr J F Flannery