PRACTICE OBSERVED

Emergencies in the Home

Urinary tract emergencies

J G DAVIES

Pain, frequency, haematuria, and retention of urine are common urological symptoms. Any one of these symptoms demands the patient's urgent attention and that the doctor tests it seriously and investigates it fully. But it is important to be aware that minor symptoms, such as a vague ache in the area of the kidneys or bladder, a little frequency, or a speck of blood in the urine, may indicate equally serious disease.

Pain

Pain arising from urinary tract problems may be severe and dramatic and requires urgent attention. Renal colic is typically loin pain that radiates around the groin and into the labium or testis as the calculus passes down the ureter. The diagnosis is usually easy to make but when the pain remains in the loin it may be confused with biliary colic, acute pancreatitis, acute diverticular disease, or acute appendicitis. The absence of signs of peritoneal irritation and normal bowel sounds help. If it is not possible to examine a centrifuged deposit of urine then one of the reagent strips may be used. Nevertheless, the diagnosis rests on the history and clinical signs.

An intramuscular injection of pethidine 100 mg repeated every four hours as necessary may be given for severe pain. Morphine is a better analgesic but because it tends to increase smooth muscle tone it is less effective. There is evidence that an injection of propantheline 30 mg as well helps to relieve the spasm.

There is no need to admit the patient to hospital unless (a) the patient requires repeated powerful analgesics, (b) there is oliguria or anuria, (c) pain is occurring in a single kidney.

Mildmay Norton, Bath
J G DAVIES, MB, BS, general practitioner

Patients with calculi should be referred to hospital for follow-up and investigation. The presence of red cells should be confirmed by (1) examining a centrifuged deposit or (2) using a reagent strip test. A "one shot" pyelogram with a single picture with group sessions and postdrainage meetings. A trainee has the privilege of working in a practice long enough to get to know its strengths and weaknesses. If the trainee can extend this experience to more than one practice there is the opportunity to learn different approaches to similar problems and to gain a wider appreciation of the variety and scope of general practice. This will be invaluable to the trainee when choosing a practice and becoming a principal.

Infection

Severe pain in the loin sometimes occurs when there is an infection in the kidney. This is suggested by other signs of infection—dysuria, frequency, fever, and possibly rigors. Pain relief is important, using pethidine 100 mg if necessary. A mid-stream specimen of urine—for example, a dip inoculum—should be collected to culture organisms before starting treatment with an antibiotic. Most infections are caused by *Escherichia coli*, which is sensitive to sulphonamides, and this is an effective and cheap treatment which should be given for seven days. The patient should be encouraged to drink at least six pints of fluid a day. Patients should be referred for investigation later.

Cystitis may present as an emergency if the pain is particularly severe, and microrritation is frequent and feels scalding, like passing "broken glass." Strangury (slow and painful urination) is sometimes present with associated urgency. There may also be frank haematuria and if not then almost certainly red cells may be seen in the urine on microscopy. Pain in the inflamed bladder may be relieved by the use of mistral (mixture of potassium citrate and hyoscine)—particularly if the organism is *E. coli*—which in sufficient quantities will alkalinise the urine. Giving phenazopyridine hydrochloride (Pyridium) 200 mg three times a day also helps. This makes

retention. In women very rarely a retroverted gravid uterus impacted in the pelvis causes retention of urine. This must be relieved immediately, after which the retroverted uterus will usually rise out of the pelvis if the bladder is kept empty and the patient lies flat for up to 48 hours. It is rarely necessary to have to manipulate the impacted gravid uterus.

Retention may present as a result of neurological abnormalities secondary to paraplegia, multiple sclerosis, or prolapsed intervertebral discs—these obviously need referral to hospital for neurological assessment.

Urological emergency in children

In infants and young children urinary emergencies may present with non-urological symptoms and signs. Occasionally

an infant presents with fits secondary to fever which is caused by urinary infection, particularly of the upper tract. Diarrhoea and vomiting may also be the presenting symptoms of renal infection as may obscure abdominal pain. Sudden onset of oedema or failure to thrive should alert the doctor to the possibility of urinary infection or renal failure in infants and young children.

Very rarely, neonates present with anuria or oliguria which is due to a congenital abnormality of the upper or lower urinary tract. These infants should be admitted urgently for investigation in case there is another cause that can be treated.

I thank Mr C A C Charlton, consultant urologist at the Royal Bath Hospital, for his help in preparing this paper and Mrs Joyce Pugsley for typing the paper.

Profiles of Practices

From city to coast

ANGELA DOUGLAS

General practitioners rarely have the opportunity to see how another practice works from the inside. Compared with their colleagues in hospitals general practitioners are isolated in their day-to-day work, despite attempts to improve communication with group sessions and postgraduate meetings. A trainee has the privilege of working in a practice long enough to get to know its strengths and weaknesses. If the trainee can extend this experience to more than one practice there is the opportunity to learn different approaches to similar problems and to gain a wider appreciation of the variety and scope of general practice. This will be invaluable to the trainee when choosing a practice and becoming a principal.

I spent my training years in two practices. In both there were three partners, of whom one was a part-time lecturer in general practice, and both employed regular part-time assistants and usually one trainee. Each practice had two practice nurses and a full reception and secretarial staff, and both held regular meetings with district nurses, health visitors, and social workers. Both partnerships worked from privately owned premises.

On the surface then both of the practices appeared to be very similar, but nothing could be further from the truth.

The practices

Practice A is in a city and the vast majority of its 6807 patients live within the city. There is easy access to pathological and radiological departments and, apart from a general practitioner maternity

unit, all hospital services are provided by the district hospitals in the city. Practice B is in a small seaside town that is popular for holidays and retirement. There are branch surgeries in three neighbouring coastal villages, covering an area of about 16 square miles. There are 5565 patients on the list, 40% live in the outlying districts. The town is 20 miles from the district general hospital, but the partners have access to a few beds in a cottage hospital, which is eight miles from the main surgery. At the cottage hospital radiology, physiotherapy, and some surgery are carried out, but pathological specimens have to be sent before 11 am to the district hospital by courtesy of the hospital car service. This causes problems of organisation that practice A doesn't have.

The patients have great difficulty getting to the district hospitals because there is no direct public transport. Because of this they appear more reluctant than the patients in practice A to be referred for admission or to outpatient clinics. This also affects the doctors so that, for example, they have to provide considerably more casualty services than the doctors in practice A.

Work load depends on age of patients

General practitioners have to decide how best to use their resources to meet the needs of all their patients without neglecting individual patients. Since it is well documented that the patients at both ends of the age spectrum—children and the elderly—make the greatest demands on a doctor's time, the age distribution of patients is a major factor in determining work load. The table shows that in practice A the proportion of children and elderly patients is close to the average for England and Wales. The partners are particularly interested in child care and can allocate time for children's surgeries at which developmental assessments take place as well as treatment.

Conversely practice B, with half the number of patients under five years of age but twice the average number over 65 years and three times the average over 75, has to give much more time to caring for the elderly. This is also reflected in the work of the other members of the team. The practice nurses carry out a periodic screening programme on the patients over 65, and the community nurses spend almost all their time with these patients.

Woodbury, Devon
ANGELA DOUGLAS, MB, MRCGP, general practitioner

the urine bright orange and stains the underclothes, which should be explained to the patient. Drinking lots of fluid, at least six pints a day, also helps. A mid-stream specimen of urine should be sent for culture and after this antibacterial treatment started with full doses of sulphonamides for seven days. Alternatively, antibacterial treatment may be given without taking a urine culture as long as a specimen is sent for culture one week after the end of treatment to ensure that the bacteria have been killed.

Acute testicular pain

There are four main causes of testicular pain: (1) acute torsion of the testis; (2) torsion of a testicular appendage; (3) acute epididymo-orchitis; (4) mumps orchitis. Younger patients with a sudden onset of testicular pain who have mumps orchitis will also have parotitis. Except for these patients all patients should be assumed to have torsion of the testis unless there is convincing evidence to the contrary. It is good practice to admit to hospital for immediate investigation a young boy or an adult up to age 25 with a history of sudden testicular pain, perhaps following some physical effort, who, on examination has an acutely tender testis and a normal cord and in whom the contralateral testis lies horizontally. It may be very difficult to differentiate between acute epididymo-orchitis and torsion, but in the adult who is constitutionally ill and perhaps has urinary frequency, and if the cord is thickened and the contralateral testis lies vertically the diagnosis is likely to be acute epididymo-orchitis. Since the abnormality that leads to torsion is often bilateral, the operation to reduce the torsion is carried out on the contralateral testis to prevent torsion occurring.

Very occasionally a testicular tumour presents as a sudden episode of testicular pain. The contralateral testis lies vertically, and the affected testis is seldom tender but will feel heavy and solid if a seminoma, or part cystic and part solid if a teratoma.

Penile pain

Phimosis (tightness of the foreskin) is often caused by repeated infection of the prepuce (balanitis)—for example, when the smegma is infected. This may lead to a pin-hole opening which balloons when the infant passes urine. This is rarely congenital, but may occur with a traumatic rash and is an indication for early admission for circumcision.

Paraphimosis occurs when the retracted foreskin is not returned to its normal position, which leads to swelling of the glans with oedema and pain. It may occur in young men who have had too much alcohol to drink and then have sexual intercourse. In his semi-anesthetized state he forgets to replace his prepuce and it is wedged later by severe pain. The patient's comfort and relief depend on prompt treatment. Mild cases can be treated by grasping the penis in one hand and using the fingers and thumb of the other hand to squeeze and elongate the glans and constrict the foreskin. The constricting ring, the first hand easing the skin of the shaft of the penis over the glans. If this does not reduce the paraphimosis the technique can be repeated after injecting hyaluronidase in lignocaine around the oedematous area and wrapping the penis in gauze for 10 minutes in gauze soaked in ice water. This causes the swelling to go down and makes it easier to reduce the paraphimosis. If the condition persists, the patient should be referred to hospital for an emergency dorsal slit or circumcision.

Haematuria

Haematuria is a frightening symptom that alarms the patient and relatives and requires urgent attention and thorough

investigation. Equal weight must be given to the smallest amount of blood in the urine as to a large volume and both should be thoroughly investigated. It is important to confirm first that it is blood and not just discoloration caused by beetroot or drugs such as phenindione (Dindevan). Examining the urine under a microscope is the sure way of showing red cells. This can also be done with a reagent strip. The patient's history will go a long way to giving a diagnostic clue as to its cause. Discovering where in the urine stream the blood appears may help to indicate the site of the haemorrhage. Haematuria that is followed by clear urine usually indicates a lesion in the posterior urethra. Haematuria that is evenly distributed throughout the urinary flow suggests a renal cause and if accompanied by suprapubic pain it is likely to be due to bladder infection or calculus. Haematuria that is preceded by clear urine suggests a source of bleeding in the bladder. If the haematuria is painless the patient should be investigated immediately to exclude the possibility of renal or urothelial neoplasms.

The doctor should try to discover a precipitating cause such as trauma or exercise; question the patient carefully about drug use; inquire into the family history, looking particularly for polycystic kidneys or calculi; ask whether the patient has been travelling abroad or if there has been any other bleeding. The abdomen should be examined, looking particularly for enlarged kidneys or a distended bladder. A rectal examination should be made of the prostate and pelvic organs, and the external genitalia should be examined. In addition, blood pressure should be checked, and signs of anaemia and signs of bruising should be looked for. If there is suspicion of prostatic carcinoma, blood should be taken to estimate the serum acid phosphatase concentration.

All patients with haematuria require a careful and thorough investigation in hospital but this is rarely an emergency. Occasionally haematuria is so great that it leads to clot retention, which, of course, requires urgent admission.

Retention of urine

This is the most dramatic and common urinary tract emergency in elderly men and is caused by an enlarged prostate. This typically occurs after some months of symptoms of prostatism. After drinking a greater amount of fluid than usual and not being able to go to a lavatory, the patient finds he is unable to pass urine, or at most only a few drops. This is usually caused by severe suprapubic pain as the detrusor attempts to overcome the obstruction.

Immediate catheterisation will relieve the pain and since prepacked sterile towels and catheters are available this can safely be done in the home. The penis and external genitalia should be washed thoroughly with antiseptic, the foreskin retracted, and the cleaned penis placed on a sterile towel. Xylocaine anesthetic gel is squirted down the urethra from a sterile nozzle. This is massaged down the urethra with one hand, the other holding the glans tightly. A sterile self-retaining catheter can be introduced without touching the catheter if the non-sterile cover is removed and the tip of the catheter exposed by tearing the inner cover at its perforations and the catheter held by the sterile envelope. Sometimes an enlarged prostate cannot be passed by a latex catheter, but there are firmer plastic catheters which may be used. It is important to use introducers for fear of creating a false passage. The catheter is immediately connected to continuous drainage and admission to hospital arranged within the next 24 hours for definitive management.

Occasionally urethral stricture leads to acute retention. This is suggested by a history of trauma to the perineum or pelvis, urethritis or instrumentation, or the prior presence of a forked flow of urine. In these cases it is often difficult or impossible to pass the stricture with a catheter and admission to hospital is necessary immediately.

In the elderly sometimes a loaded rectum fills the pelvis and leads to urinary retention. Manual removal of faeces relieves the

Comparison of data from practices A and B and average figures for England and Wales

	A	B	Average for England and Wales*
No. of patients on list	6807	5565	5986
Percentage of patients on list according to age (yr)			
0-4	1.5	0.7	1.0
5-14	10.5	11.7	10.0
15-24	10.5	11.7	10.0
25-34	10.5	11.7	10.0
35-44	10.5	11.7	10.0
45-54	10.5	11.7	10.0
55-64	10.5	11.7	10.0
65 and over	46.0	42.0	46.0
Total No. of night visits made in year	62	126	94
Total No. of temporary residents seen in year	188	287	237

Notes: Figures for practices A and B are for 1979.

As a trainee, working in both practices gave me a much wider exposure to the problems of the young and the old than I would have had from just one.

Home visiting

Practice A has half the annual home visiting rate of practice B. The partners in practice A, however, emphasise the importance of home visiting to their trainees, so that this difference probably reflects the attitudes of the doctors towards home visiting but rather illustrates the different needs of the patients in the two practices and how easily patients can get to the surgeries.

Practice B is in a hilly region and many visitors may be seen passing on the cliff paths. Public transport is at best infrequent and at worst non-existent. It is also expensive. To visit their doctor, patients either have to be fit enough to walk or have access to a private car. Despite the fact that I have never before seen so many specially people in their 80s and 90s, many cannot meet these rigorous criteria. The diseases of the elderly commonly restrict mobility. In winter the doctors also have difficulty getting around—my trainee has been known to do his rounds on a tractor and on horseback.

Comparing the number of night visits (between 11 pm and 7 am) for both practices gives a good indication of acute medical needs, since night visits are less affected by geographical factors. In practice B the doctors made 126 night visits in a year compared with 62 made by the doctors in practice A. These figures need to be explained: in practice B doctors are on call for their own patients only, whereas practice A shares its on-call rota with another city practice of a similar size. Although doctors in practice A are on call only half as often as those in practice B, they are on call for a population of about 13 500 patients. Allowing for these factors, the annual rate of night visiting per patient in practice B is twice that in practice A. The elderly appear to be particularly resistant about calling a doctor at night, and so the large number of night calls in practice B probably reflects a greater number of medical emergencies in the elderly.

Temporary residents

Another striking difference is that in practice A an additional 188 patients a year make little impact on the organisation and work of the practice, but in practice B the demand for care from an additional 287 patients concentrated during the summer poses special problems that are only partially offset by the additional income. Extra surgery time is needed and since this coincides with the time of year when the partners like to take their annual leave, locums and trainees tend to carry a disproportionate share of the work.

Visits to temporary residents may also present special problems, particularly when both the doctor and the patient are unfamiliar with the area. The difficulties of navigating through a strange city at night when compared with hunting for a tent in a field in pitch darkness and examining a stranger by torchlight.

Records

In any practice, but particularly one that is training doctors, it is essential that the medical records can be understood by other doctors.

The records presented problems in both practices. Both use the traditional record envelopes (EC5). The partners in practice A were stringent in recording every doctor-patient contact and every prescription issued. There was even an occasional summary card. Although this sounds fine, it was not, in fact, very helpful because my trainee's handwriting was illegible.

In contrast, my trainee in practice B, knowing that he had a habit of losing notes, did not take notes with him on visits and often forgot to write them up afterwards. The records were legible but incomplete. The excuse that in a small community he knew his patients so well that details were not necessary was of no help to other doctors who saw his patients. The branch surgeries also created havoc with the record system. One of these "surgeries" consisted of a table and chair in the ladies' cloakroom of the village hall and no records or equipment except what the doctor carried. Under such circumstances a patient's request for "the usual" requires a good memory, or intuition, plus assistance from the very helpful local chemist.

The trainees benefit

I think it is fair to say that the complaints of successive trainees have encouraged both practices to review their record systems. Practice A has employed someone to rationalise their records and ensure that each envelope contains up-to-date summary cards where repeat medication and major medical and social problems are recorded. Practice B has also introduced summary cards for repeat medication and recently started recording notes of visits and branch surgery consultations on tapes that are later transcribed.

The trainees benefit

Just as the practices differed, so did the trainees and their methods of training. One emphasised joint surgeries and joint visits—the trainee observing the trainee—and random case analysis. The other trainee made more use of tape-recorded consultations and tutorials on specific problem areas. Experience of different approaches is helpful in stimulating greater self-knowledge.

It is hardest of all to capture how each practice was suited to its situation. The personalities of the partners and staff and their relationships with each other and the patients were such that I could not imagine the practices being transposed. I am sure that my own behaviour of the incoming partner. No doubt these two factors interact. But for a doctor entering practice for the first time it must surely be important to be self-aware and to have knowledge of the local population. This brings me back to my premise that for a trainee the experience of working in different types of practices is invaluable. The price one pays for this is a loss of continuity, but continuity comes when one becomes a principal, whereas once a principal one is unlikely to have the opportunity of experiencing the alternatives presented by another practice.

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References

- 1 Fry J, ed. *Trends in general practice 1979*. London: Royal College of General Practitioners, 1979. 2nd ed.
- 2 Royal College of General Practitioners, Office of Population Censuses and Surveys and Department of Health and Social Security. *Monthly statistics from general practice. Second national study 1970-71*. London: HMSO, 1974.
- 3 Office of Population Censuses and Surveys, Social Survey Division. *General household survey 1978*. London: HMSO, 1980.