Prostate disease: an overview

Diseases of the prostate remain the Cinderella of medical practice in the UK as we approach the third millennium. Despite their high prevalence, disproportionately low levels of resources are provided to investigate, treat or promote research into this important cause of morbidity and mortality in men.

If one considers the analogous situation of breast disease, where Breast Cancer Awareness Month is just about to begin, where there are well established screening programmes for women, regular high profile fund raising events and vastly greater funds for research, it would appear that men are at a significant disadvantage. In 1998 the government gave £4.3 million to breast cancer research while the amount going to prostate cancer fell to just £47000.

Only recently have men's health issues started to come to the fore, in large part driven by highly motivated individuals and organizations such as the Prostate Cancer Charity and the Prostate Forum. As public attention begins to focus on men's health in general and prostate disease in particular, so increasing concern will result in increased demand for medical care.

While important reassurance about perceived prostate problems can be provided for many of the 'worried well', one would hope at the same time to help men acknowledge and obtain treatment for the significant amount of unidentified disease existing in the community at large. It is a sobering thought that men in Britain now have the same slim chance of surviving prostate cancer as men in Estonia, in large part as a result of their delay in presentation and diagnosis.

Diseases of the prostate are poorly understood by many patients and even by some doctors. The prostate has been likened to the car which is manufactured on a Friday afternoon. It functions satisfactorily during a man's important reproductive years but as time progresses and he gets older it tends to go wrong more often than you would expect.

Different diseases of the prostate affect men at different ages. Men in their late 30s and 40s suffer from prostatitis, often of a chronic relapsing nature. By the fifth decade prostate cancer becomes more prevalent, while benign prostatic enlargement causing symptomatic bladder outflow obstruction is a well recognized problem for men beyond the age of retirement.

PROSTATITIS

While acute prostatitis is easy to recognize and treat, it is the much larger number of patients who present with vague chronic suprapubic, perineal or perigenital pain, variably associated with disorders of micturition or ejaculation, who are most difficult to manage.

Symptoms commonly wax and wane over a variable time course and can cause significant loss of time from work, as well as physical and psychological incapacity. Such patients make heavy demands on the medical services and it is crucial to distinguish chronic bacterial prostatitis from chronic non-bacterial prostatitis or prostatodynia if prolonged expensive antibiotic therapy is going to be directed most effectively.

The Stamey '3 glass test' (Meares and Stamey, 1968) is clearly described in the article by Thin (p. 710) in this month's symposium and should be a minimum standard before commencing antibiotics. Given the relatively poor penetration of the prostate by antibiotics, its 'honeycomb' architecture and alkaline environment, we know that for an antibiotic to be effective in treating chronic bacterial prostatitis it should be lipid soluble, have low protein binding and a high dissociation constant (pKa). While simple antibiotics such as trimethoprim may be effective, prolonged treatment with quinolones is usually required for maximal control of the infective process.

PROSTATE CANCER

Prostate cancer is now the second commonest cause of death from malignancy in men in this country. It commonly presents at an advanced stage in the UK when potentially curative treatment is no longer possible. If we are to make any impact on this life-threatening disease we are going to have to diagnose it at an earlier stage and treat it actively.

Serum prostate-specific antigen (PSA) testing and transrectal ultrasound-guided biopsies are effective at detecting tumours at an early stage (Dearnaley et al, 1999). Radical surgery can remove the prostate with its contained cancer to provide long-term disease-free survival albeit at the price of the potential complications of surgery. Patients need to be involved in decisions about the balance between the length of this survival and the quality of life associated with it.

In the USA, where aggressive early detection of prostate cancer with PSA testing has been in regular use since 1987, there has been a significant rise and subsequent fall in the incidence of prostate cancer as the undiagnosed asymptomatic reservoir of early stage disease was identified, together with a significant reduction in stage of the tumour at diagnosis.

Along with a large rise in the radical prostatectomy rate, for the first

time we have seen a fall in the mortality rate for prostate cancer of around 10% between 1990 and 1995 (Mettlin and Murphy, 1998). A large ongoing European study is currently assessing the value of screening for prostate cancer in a prospective controlled setting (Schröder and Bangma, 1997), but results from this study will not be available for a number of years. Randomized trials of treatment (Medical Research Council (MRC), 1994) have foundered because of a failure to recruit patients and therefore we have to rely on tumour registry data and uncontrolled trials to assess the value of early diagnosis and aggressive treatment for prostate cancer.

For patients with advanced disease at the time of diagnosis, hormone manipulation remains the gold standard treatment. A large MRC trial comparing early hormone treatment with deferring treatment until the patient develops symptoms has recently reported (MRC Prostate Cancer Working Party Investigators Group, 1997). The results suggest that starting treatment at the time of diagnosis confers a significant survival benefit as well as minimizing the risk from serious complications such as spinal cord compression, pathological fracture or ureteric obstruction.

As patients are now being diagnosed at an earlier stage as a result of PSA testing, it is likely that they will be receiving hormone therapy, with its attendant side-effects, for a significantly longer time than previously. Again decisions will have to be made about the balance between the quantity of that survival advantage and the quality.

BENIGN PROSTATIC ENLARGEMENT

This is one of the commonest disorders to affect men beyond middle age. Histological evidence of benign prostatic hyperplasia is present in more than 60% of men in their 60s and over 40% of men beyond this age have symptomatic disease, of whom about half have an impaired quality of life (Garraway et al, 1993). Not surprisingly, with increased media attention on urinary disorders, many patients with mild or intermittent symptoms consult their doctors with concerns about their prostate only to be reassured that they do not have cancer.

In response to this increased demand, nurse-led prostate assessment clinics have been very useful in triaging those with significant bladder outflow obstruction from those with some urinary frequency but well maintained flow rates and satisfactory bladder emptying. For those with proven prostatic obstruction, medical treatment with α-blockers has revolutionized treatment for this condition.

The number of patients undergoing prostatectomy has fallen significantly in recent years although we know that α-blockers can only provide symptomatic relief, without affecting the size of the prostate or its potential for progressive obstruction and recurrent symptoms in the future. Claims for shrinkage of the prostate with 5α-reductase inhibitors are backed up by studies showing relief of symptoms and a modest reduction in the incidence of acute urinary retention (McConnell et al, 1998).

While transurethral resection of the prostate remains the gold standard treatment for bladder outflow obstruction, it is interesting to observe the introduction of alternative unproven energy sources such as microwave and lasers to remove the obstructing prostate. The use of new drugs requires scrupulous evidence of efficacy and safety before they can be used routinely. This is not so with new technology, however, and despite enthusiastic claims of early benefit these new forms of treatment have yet to stand the test of time. HM

John Anderson
Consultant Urological Surgeon
Royal Hallamshire Hospital
Sheffield S10 2JF

KEY POINTS

- Despite the high prevalence of prostatic disease in the UK, the resources for investigation, treatment and research are very limited.
- Chronic prostatitis needs a clear-cut microbiological diagnosis if prolonged courses of expensive antibiotics are going to provide effective treatment.
- Prostate cancer can be diagnosed at an early asymptomatic stage when potentially curative treatment is still available.
- Initiation of hormone therapy for advanced prostate cancer should be considered at diagnosis, especially in younger men with aggressive tumours.
- Alpha-blockers provide effective symptomatic relief from bladder outflow obstruction caused by benign prostatic enlargement.

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