The prostate in Cleveland, Ohio

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PROSTATE CANCER SCREENING

Prostate cancer is the third commonest cancer death in men in the UK after lung and bowel cancer, with a mortality rate of approximately 34 per 100 000 men¹. This equates to about 9000 deaths per year. In the USA, prostate cancer is the most frequently diagnosed major cancer in men; and the general view is that only localized disease can be cured. Unfortunately, localized disease is usually asymptomatic. Opinions differ across the Atlantic on the value of screening for prostate cancer and on the treatments to be offered.

I was attracted to Cleveland, Ohio, by the proximity of two well-known centres of urology, University Hospitals of Cleveland under the chairmanship of Martin Resnick and the Cleveland Clinic where Andrew Novick was the head. There was a friendly rivalry between the two. The urologists held some joint meetings and residents on either training programme spent time at the other institution. Education had a very high priority in both places. Most of my time was spent in university hospitals.

The Department of Urology at the Case Western Reserve University School of Medicine coordinated all the graduate programmes in urology in five hospitals integrated with the School of Medicine. These comprised the University Hospitals of Cleveland, MetroHealth Medical Center, Veterans Affairs Medical Center, St Luke's Hospital and Mount Sinai Medical Center. The chiefs of the urological services in each affiliated hospital were responsible for all matters of patient care and professional conduct at the hospital. Professor Resnick was the overall head.

Prostate cancer grows slowly and most approaches for apparently localized prostate cancer are equally efficacious for periods of less than 10 years². There is no consensus at present as what to do regarding the diagnosis and management of localized prostate cancer in men with a >10 year life expectancy. Would screening be cost effective? Is radical treatment necessary? Results from randomized controlled trials of screening would provide the answer. In the USA two major studies are underway—the Prostate, Lung, Colon and Ovarian Cancer Screening Project (PLCO) and the Prostate Cancer Intervention Study

(PIVOT)^{3,4}. A similar European screening study is centred in the Netherlands. Unfortunately, many years will elapse before definitive results emerge.

The rate of prostate cancer detection in the USA has risen strikingly over the years. In 1985, some 86 000 cases of prostate cancer were diagnosed⁵. The American Cancer Society estimated over 317 000 new prostate cancers in 1996 and projected that one in five American men would be diagnosed with the disease during his lifetime⁶. The reason for this increase is screening, with the measurement of prostate specific antigen (PSA) combined with digital rectal examination. There is controversy as to how many of these cancers are clinically important and would have a detrimental effect on health if undetected. Necropsy studies show that one-third of men over the age of 50 who have died from non-prostate disease harbour a latent prostate cancer. This rises to two-thirds of men over 80⁷. In other words, more men will die with their prostate cancer than from it. Other arguments against screening include the human costs in terms of the anxiety generated by the testing and the side effects of the (perhaps needless) treatment of the cancer. There is also the economic cost. Kramer *et al*⁸ have estimated an additional cost of about US \$11.9 billion in the first year of a USA-wide prostate cancer screening programme with routine PSA and digital rectal examination for all men aged 50–74 years who do not have pre-existing cardiac disease². The cost in the UK would not be nearly as high, but it would still be substantial. The costs include the screening tests themselves, the follow-up of abnormal results, prostate biopsies, staging investigations, primary treatment and management of complications. The York NHS Centre takes the view that, since we cannot be confident of a net gain from screening, such programmes (except in research) cannot be justified¹.

The urologists in Cleveland were perplexed by the British bias against screening. They felt that screening offered the best opportunity for reducing the mortality from prostate cancer and that the ongoing studies would bear out their view in the fullness of time. Prostate cancer was a political issue in the USA, with several well-known men going public on their disease and treatment. There was a demand from the public for screening, fuelled by the medical fraternity agreeing that this was beneficial.

In Cleveland, prostate cancer screening was underwritten by the hospitals as a 'service' to the community.

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The men invited to be screened paid about US\$30. Screening was by means of an administered questionnaire, a PSA blood test and a rectal examination. The participants were written to with the results and, if the findings were abnormal, were encouraged to make an appointment with one of the urologists for further evaluation. Those who had symptomatic bladder outflow obstruction could also be further evaluated. On one occasion, I took part in a screening session. This was held in a college of further education 30 miles from Cleveland. Employees of the college aged over 40 years were invited for screening. Several of the men had been coming once a year for many years. The medical team consisted of Professor Resnick, a resident and two nurses. The nurses attended to the administration and venepuncture, whilst the physicians went through the questionnaire with the man and performed a rectal examination. The process was quick and efficient. I was surprised that the rectal examination was done with the man on his feet and bent over a desk (in contrast to the British technique with the patient on a couch in the left lateral position.) The man was sent the results a few days later. It was up to him whether to follow through an abnormal test result or not.

PROSTATE CANCER SURGERY

Consequent on screening programmes a high proportion of prostate cancers detected in the USA are early. For the most part, men under 70 years old are offered radical prostatectomy. This can be performed via a retropubic or perineal approach. Most urologists prefer the former (85% in one poll), but a substantial minority (15%) perform radical perineal prostatectomy. This latter procedure has become more common now that lymph node dissection is seen not always to be required. Professor Resnick is a keen proponent of this operation since postoperative recovery is faster. Furthermore there is less operative blood loss as the dorsal venous complex is left intact. The vesico-urethral anastomosis is also easier⁹. Few urologists in Britain adopt the perineal approach and I had not seen this operation during my training. When the PSA was below 4.0 ng/mL no lymph node dissection was done. When the PSA was between 4 and 10 a laparoscopic lymph node dissection was performed with the perineal operation dependent on a negative frozen section. With a PSA of above 10 much thought went into the advisability of doing a radical operation because of an increasing risk of positive surgical margins. There is a good correlation between the PSA level and the risk of disease extending beyond the prostate capsule (and thus not surgically curable).

RESEARCH AND TRAINING

About 2000 square feet of urology research space was available at the Case Western site and another 1000 square feet at the Cleveland Veterans Administration Hospital, under the supervision of Dr Alan Seftel. All the residents were encouraged to participate in research. Indeed they spent a year of their six year programme in full-time research. The aim was to get a good scientific background, develop their critical faculties and publish several papers. Funding was no obstacle since they drew their normal salary during the year—in contrast to the position in the UK where much research is funded by 'soft money' or by running pharmaceutical trials. Residents' studies included the role of glycosaminoglycans in urolithiasis, physiological role of penile microvascular bed in erection and sacral stimulation and its effect on bladder function.

I benefited greatly from immersing myself in another healthcare system. The residency training programmes in USA are to be admired. Calmanization in the UK is a major step in the same direction. I had the opportunity to observe many procedures in a short space of time and was made very welcome.

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