

New Zealand should introduce population screening for prostate cancer using PSA testing

YES

By 'screening' I mean testing asymptomatic men by prostate specific antigen (PSA) blood test and digital rectal examination annually from the age of 50 for the general population and from 40 for those with a family history. This should of course occur with informed consent by the man after the small risks and considerable benefits have been adequately explained.

Screening is best practice because the alternative is disaster for men who could be cured by modern treatments. Many senior urologists and radiation oncologists have already been there and recall the days before PSA became available in New Zealand in 1993. I had 14 years' consultant practice in that era. Seventy percent of the men presenting with prostate cancer had metastases. Many had advanced situations with troublesome bone involvement, pathological fractures, paraplegia, advanced difficulties with the primary including acute retention, ureteric obstruction, pelvic pain. Cure rates with the available method, external beam radiation therapy, were

50% at best. Results for the main group on androgen deprivation therapy were that the mean response was two to four years, then advancing disease. A minority, 20%, would respond long-term. About 1100 men were diagnosed each year in New Zealand and 500 died of the disease giving a mortality ratio of 45%, similar to breast and colon cancers. Dying is not easy especially during the last two years when many hospital admissions and interventions are usually required. It has been shown that the cost of this is greater than for curative treatments. The mean age of death is 76. But usually men dying of prostate cancer have a decade of problems meaning that it can ruin their final years. Many men are much younger during this time. Amongst problems are side effects of androgen deprivation therapy including impotence, bone and muscle weakness, skin and hair changes, hot flushes, memory deficit, depression, loss of concentration, other mental changes. Testosterone is responsible for many aspects of maleness. The mean loss of duration of life for those dying of prostate cancer is eight years. Then there is another big group who have advanced cancer but die eventually of something else.

Robin Smart

MBChB (Otago) FRCS,
FRCSE, FRACS

CORRESPONDENCE TO:

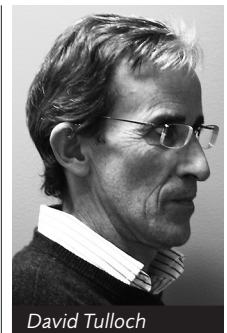
Robin Smart

Urologist
PO Box 26206, Epsom
Auckland, New Zealand
robinsmart@xtra.co.nz

While evidence can help inform best practice, it needs to be placed in context. There may be no evidence available or applicable for a specific patient with his or her own set of conditions, capabilities, beliefs, expectations and social circumstances. There are areas of uncertainty, ethics and aspects of care for which there is no one right answer. General practice is an art as well as a science. Quality of care also lies with the nature of the clinical relationship, with communication and with truly informed decision-making. The **BACK TO BACK** section stimulates debate, with two professionals presenting their opposing views regarding a clinical, ethical or political issue.



Robin Smart



David Tulloch

BACK TO BACK this issue:

Curiously, doctors earlier seemed to remember the 20% who responded long-term to androgen deprivation therapy and forget those who died. Dead men tell no tales. This led to the myth that prostate cancer has a benign course. This ignorance is dispelled by first-hand experience and studying the literature. There is no excuse for that now.

Many New Zealand urologists including myself learnt how to carry out the now common radical prostatectomy curative operation in the late 1980s after the improvements pioneered by Dr Patrick Walsh of Johns Hopkins Hospital. But I did not find a case early enough to be suitable until after PSA testing started in New Zealand in 1993, despite seeing about 70 new cases per year.

Those opposing PSA would have us return to this time.

PSA has revolutionised prostate cancer in the advanced world. Now 90% of new cases are early enough to be suitable for curative treatments. These offer cure rates ranging from 70 to 90% generally. Now 20 years after PSA testing commenced in North America, Western Europe and Australia there is conclusive evidence it works. This consists of major improvements in national mortality data for these countries ranging from 10 to 40% and controlled trial evidence described in the NZ Med J review article referenced below.¹ In addition, the recent multicentre European trial showed a 29% drop in mortality.² The major American prostate, lung, colorectal and ovarian (PLCO) cancer screening trial has been discredited but did show a 25% mortality drop in some groups.³

This has come at the expected cost of more cases diagnosed. Approximately 2000 men are diagnosed in New Zealand each year now. A major concern of those opposing PSA testing is the risk of 'overtreatment' of low risk cancers that would not cause problems. But men who would benefit from treatment must not miss out by exaggerating this argument. It is false to assert that gentle forms of prostate cancer cannot be distinguished from threatening forms. The Gleason Score used in histology of transrectal ultrasound (TRUS) or transurethral resection of the prostate (TURP) biopsy material has proved to be a very reli-

able prognostic index. Other TRUS biopsy data estimate tumour volume. Low risk disease can be identified by applying these and other factors expressed by Epstein and McNeal's criteria. This group can then be considered for active surveillance not curative treatment. This effectively answers the 'overtreatment argument'. In practice this low risk group has been found to comprise only 15 to 20% of cases. Results of this policy are good.

Another concern is that PSA is unreliable. But it is only a first screening test. The definitive test is biopsy histology—extremely reliable. And PSA with a positive predictive value of 35% compares well with, for example, mammography with values of 2–11%. Similarly it compares well with respect to numbers needed to screen (breast 1800, cervix 8000, prostate about 80) and numbers needed to treat to save a life (prostate 2 to 5).

TRUS sector biopsy is now an acceptable office procedure performed in the millions annually worldwide. Complications requiring hospital admission range from nil to 1.6% in modern series.

Therefore PSA testing is win-win for all involved. The man wins because prostate cancer is usually identified when it can be acceptably cured, if that is justified. His near male relatives win because they are warned to look for it and their prognosis is improved. His general practitioner wins because his vigilance is appreciated, whereas omission is condemned by his patient who has missed the opportunity for cure. The urologists and radiation oncologists win because it is much better to cure disease than to manage advanced situations and watch patients die. And the health authorities could win by supporting PSA testing and then seeing the mortality and morbidity figures for New Zealand approach those for Australia, North America and Western Europe.

References

- 1 Smart RF. PSA testing and DRE, TRUS scanning with sector biopsy, improved histology, curative treatments, and active surveillance for prostate cancer: a success story for men's health. *NZ Med J*. 2008;121(1287).
- 2 Schroder FH, Hugosson J et al. Screening and prostate cancer mortality in a randomised European study. *New Eng J Med*. 2009;36:1320–8
- 3 Andriole G et al. Mortality results from a randomized prostate cancer screening trial. *New Eng J Med*. 2009;36:1310–9