

Low prostate specific antigen levels and normal digital rectal examination



A report on a follow up cohort in general practice

Tom Brett, MA, MB, BCh, MD, MRCGP, is Senior Lecturer, School of Medicine, University of Notre Dame, Western Australia. tombrett@cyllene.uwa.edu.au

The routine use of digital rectal examination (DRE) and prostate specific antigen (PSA) as early detection tests to facilitate the early diagnosis of prostate cancer among asymptomatic men remains controversial.^{1,2} The Royal Australian College of General Practitioners guidelines on the management of prostate cancer at the primary care level³ contain no advice on how GPs should manage individual men who ask to be tested for the disease.

A low baseline level of PSA is a good predictor of future low levels, and is in itself associated with low risk of developing prostate cancer. Men with levels below 1.0 ng/mL are 5–6 times less likely to be diagnosed with prostate cancer in the succeeding 10 years than men with levels between 2.0 and 3.0 ng/mL.⁴ A PSA test interval of 2 years with a baseline PSA level below 2.0 ng/mL is unlikely to fail to detect any prostate cancers.⁵

Methods

The researcher prospectively followed up a cohort of 149 men over 5 years who in 1998 had normal DRE and PSA levels (<1.0 ng/mL) from a single general practice. In 2003, 134 of the 149 men were offered follow up testing (11 had died in the interim, and a further four were excluded because they had reached 80 years of

Table 1. Comparison of 1998 and 2003 PSA results among completed patients by age group

Age (years)	1998 cohort Number tested	Number retested	2003 follow up		
			PSA <1.0	1.0> PSA <2.0	PSA >2.0
40–49	46	12	9	3	0
50–59	50	32	20	9	3
60–69	32	26	22	4	0
70–79	21	19	10	9	0
Total	149	89	61	25	3

age). Digital rectal examination and PSA testing were undertaken on 89 of the 134 men (66.4%), while 45 (33.6%) were not contactable. Informed (not written) consent was obtained from all participants, and the DREs were undertaken by the same GP.

Blood tests for PSA were obtained before DRE using the Bayer Diagnostics Advia Centaur PSA (Equimolar) Immunoassay system, which correlates well with the Abbott AxSYM PSA system used on this cohort in 1998.

Results

In 2003, 28 men (32%) had PSA levels above or equal to 1.0 ng/mL (Table 1). Only three (3%) had PSA levels above 2.0 ng/mL (one man with a PSA of 2.1 ng/mL

was aged 58 years; two with 2.3 and 6.7 ng/mL were both aged 55 years; while a repeat PSA test on one of these men after 2 months was 0.8 ng/mL and he declined further assessment). All 89 DREs were normal.

Discussion

The cohort studied was small which makes it difficult to extrapolate the results more widely. However, the findings support the suggestion of previous research^{6–8} that for men 65 years of age or over with normal DRE and PSA levels (<1.0 ng/mL) and having annual serial testing, the likelihood of developing clinically significant prostate cancer is low.⁷ Less frequent testing for such men may be appropriate.

Implications of this study for general practice

What we already know

- Most men requesting early detection tests for prostate cancer have low levels of PSA and normal DRE.

What this study adds

- For men 65 years of age or older with low PSA levels, these levels are likely to persist.

Conflict of interest: none declared.

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AFP

Correspondence

Email: afp@racgp.org.au