# Case 1 – Raised PSA

## C/O The MDU

The patient was a 54-year old man who was found to have an elevated PSA (5.6) and referred for a cystoscopy and prostatic biopsy, which was negative.

Four years later, he saw his GP who requested a further PSA which was still raised (5.6).

Nine months later he saw another GP reporting painless haematuria for three days.

* An MSU test and urinary cytology were both normal.

Three months later the patient saw an MDU GP who requested a PSA which had now risen to 13.8.

* It appeared that no action was taken on the result.

Seven months after this test the patient saw another MDU GP about an entirely different complaint. The doctor spotted in the patient's notes that the last PSA had not been investigated further. He immediately ordered a repeat test, which was reported at 9.5, and referred the patient to a urologist on a non-urgent basis. Prostatic biopsy was positive with a Gleason Score of 3+3. The patient underwent a radical prostatectomy which, somewhat surprisingly, showed only two very small loci of malignancy

## Discussion questions

*What do you think about this case? Do you think anything should have been differently? If so; at what point?*

CLAIM:

The patient alleged: negligent failure to inform the patient of the PSA result of 13.8. It was further alleged that it was negligent to have waited a further seven months and only to have repeated the PSA test when he returned to the surgery.

OUTCOME:

The MDU obtained a report from an independent GP expert who considered that the first GP should have referred the patient for further investigation when his PSA was found still to be high after four years. He was also critical of the failure to refer or to arrange a further PSA test when the patient presented with painless haematuria. The expert was highly critical of the failure to refer the patient when the PSA of 13.8 was received and he stated that he considered that this resulted from a systems failure within the practice. He also considered that the referral which eventually took place should have been made under the two-week rule procedure.

The MDU obtained a report from an independent urology expert. The expert considered that it is likely that the tumour would have been at the same stage when the PSA was 13.8 as it was at referral to the consultant urologist, and the same treatment would have been offered. The expert commented that in view of the very small size of the tumour, it is highly likely that the patient had been cured by the radical prostatectomy.

This view was accepted by the claimant who then only sought compensation for his distress in discovering the delay in diagnosis. The claim was settled for £4,500.

## Demographics

Commonest male cancer in the UK

Second leading cause of death in men – 10000 deaths/year

21% of prostate cancers are metastatic at presentation.

5% increase in incidence over the last 10 years. – presumed secondary to increased use of PSA

Mortality falling - ?due to improved treatment/screening

## Risk factors/aetiology

1. Age – very uncommon in men <50 yrs
2. Heredity
	1. 1 first degree relative – RR increased x 2
	2. 2 first degree relatives – RR increased x 4
	3. Hereditary CaP (3 or more relativs, 3 successive generations or 2 individiuals <55 yrs) – RR increased x 5
3. Diet
	1. Increased incidence in countries with high dietary fat intake
	2. Antioxidants e.g. green tea, isoflavanoids are associated with a reduced risk of prostate ca
4. Chronic prostate infection
	1. Hx of STI or prostatitis – 1.5 x increased RR
	2. Associated with CMV, polio and HPV
5. Vasectomy – increased RR of 1.4 which increases by 10% approx. 10 years after vasectomy – but mechanism for this is unknown

## Screening

*Screening for prostate cancer? Who would you more readily check a PSA for?*

Currently no formal screening programme in the UK, and most screening is opportunistic. A recent European study looking at PSA screening every 4 years for men aged 50-74years demonstrated that with this intervention there is : 20% reduction in death rate, 48% reduction in metastatic disease, but no benefit in men over 70yrs. Therefore this specialist recommended that screening the UK should be targeted for those at higher risk, and should be started at the age of 45 years:
- Afro-Caribbean men
- FHx of prostate cancer - especially if the family member was young at the time of diagnosis (more likely to be an aggressive type)
- FHx of breast/ovarian cancer
- PSA >1 at age 45-50 yrs (associated with an increase risk of ca from 1% if PSA <1 at this age, to 15% if PSA >1) i.e. if PSA > 1 then screen every 4 years, but if <1 then screen every 8 years.
IF PSA <2 at 60 years then no need for further screening unless symptoms change as these men are at a very low risk of developing prostate cancer.

NICE recommendations:
- Men have the right to a PSA test if >50years old, if have discussed the pros and cons. Can consider if >45 years if at higher risk.
- At an initial appointment, offer men with LUTS, advice/info/time to decide if they want a PSA test if their symptoms are suggestive of bladder outflow obstruction, their prostate feels abnormal on DRE, or they are concerned about prostate cancer.
- If there is doubt about whether to refer a borderline PSA in an asymptomatic male, then repeat the test after 1-3 months. If the second result is higher, then refer urgently.
- A high proportion of "free PSA" i.e. >25% of total PSA, is associated with BENIGN disease.

## Clinical features / Diagnosis

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| **Symptom** | **Cancer** | **Referral Recommendation** |
| Erectile dysfunction in men | Prostate | Consider a prostate-specific antigen (PSA) test and digital rectal examination |
| Haematuria (visible) in men | Prostate | Consider a prostate-specific antigen (PSA) test and digital rectal examination |
| Lower urinary tract symptoms, such as nocturia, urinary frequency, hesitancy, urgency or retention in men | Prostate | Consider a prostate-specific antigen (PSA) test and digital rectal examination |
| Prostate feels malignant on digital rectal examination, in men | Prostate | Refer men using a suspected cancer pathway referral (for an appointment within 2 weeks) |
| Prostate-specific antigen levels above the age-specific reference range | Prostate | Refer men using a suspected cancer pathway referral (for an appointment within 2 weeks) |

NICE 2WR referral criteria as of 2015 update:

* **Refer men using a suspected cancer pathway referral (for an appointment within 2 weeks) for prostate cancer if their prostate feels malignant on digital rectal examination** (new NICE recommendation for 2015).
* Consider a prostate-specific antigen (PSA) test and digital rectal examination to assess for prostate cancer in men with:
	+ Any lower urinary tract symptoms, such as nocturia, urinary frequency, hesitancy, urgency or retention or
	+ Erectile dysfunction or
	+ Visible haematuria (new NICE recommendation for 2015)
* **Refer men using a suspected cancer pathway referral (for an appointment within 2 weeks) for prostate cancer if their PSA levels are above the age-specific reference range** (new NICE recommendation for 2015).

PSA age-specific values:

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| **Age** | **PSA max value ng/ml (as per BAUS guidelines)** |
| 40-49 | 2.7 |
| 50-59 | 3.9 |
| 60-69 | 5.0 |
| 70-75 | 7.2 |

## PSA test counselling – what should you discuss?

* Benefits of screening and aggressive treatment for prostate cancer have not yet been proven
* DRE and PSA have false positive and false negative results
* Relatively high risk of further invasive tests
* Aggressive therapy is necessary to achieve benefit following discovery of cancer
* Risk of mortality/morbidity from treatment
* Early detection and treatment may save lives and avert future cancer related illness

## What are the treatment options now?

* Prostate cancer treatment is now much more aggressive, and watchful waiting is only really reserved for men with multiple co-morbidities and a life expectancy of <10 years.
* "Urolift - an alternative to TURP"
Day case procedure for patients with enlarged lateral lobes of the prostate. Under GA (or spinal). Has a cystoscopy and then "treasury-tag"-like implants are inserted to pull the lateral lobes of the prostate back from the urethra i.e. like curtain ties. 4-6 tags/patient. No need for catheter post procedure unless spinal anaesthetic used, no risk of incontinence, no retrograde ejaculation, no erectile dysfunction, minimal bleeding, doesn't prohibit any other treatments in the future should the prostate continue to grow.

## Useful Links:

* <http://www.baus.org.uk/patients/conditions/10/raised_psa#What_are_the_facts_about_a_raised_PSA_>
* <http://www.prostatecancer-riskcalculator.com/assess-your-risk-of-prostate-cancer>