Prostate cancer - suspected

History

Investigations

Consider differential diagnoses

Integrated care and the multidisciplinary team (MDT)

RED FLAG!

Consider non-urgent referral to urologist

Go to prostate cancer - diagnosis

For terms of use please see our Terms and Conditions.
1 Background information

Quick info:
Scope:
• diagnosis, staging, and management of prostate cancer
• includes primary and secondary care
• includes follow-up, management of relapse, and management of advanced disease
Out of scope:
• palliative care (see 'End of life care in adults' care map)
• screening and detection
• management and treatment related to erectile dysfunction (see 'Erectile dysfunction' care map)

Definition:
• prostate cancer is a malignant condition involving the prostate gland which can range from asymptomatic, slow-growing tumours to very aggressive tumours [6,8]
* localised prostate cancer – cancer confined within the prostate capsule, frequently asymptomatic [6,30]
* locally advanced prostate cancer – cancer extended outside the prostate capsule, frequently asymptomatic [6,30]
* metastatic prostate cancer – metastases may be the first sign of prostate cancer, which frequently metastasises to the bones, causing pain [6,7] or skeletal-related events (SREs) [29]

Incidence and prevalence:
• in the UK, prostate cancer is the second most common cause of cancer deaths in men [6]
• the annual prevalence in England and Wales is approximately 450 per 100,000 men [30]
• in Europe, the incidence rate is 214 cases per 1000 men [2]
• the average age of diagnosis is age between 70-74 years [6]
• 25% of patients have advanced disease at the time of diagnosis [3]
• the 5-year survival rate of men who present with metastatic disease is approximately 30% [6]

Risk factors:
• increasing age (the strongest risk factor) [6,30,25]:
  • relatively rare in men younger than age 50 years [6,25]
  • incidence increases in men older than age 60 years [6]
  • more than 60% of cases occur in men older than age 70 years [25]
• hormones, eg:
  • high levels of testosterone; however, the Prostate Cancer Risk Management Programme (PCRMP) states that a recent review showed that sex hormones do not alter the risk of prostate cancer [6]
  • insulin-like growth factor (IGF-1)
• family history [6,30,26]:
  • prostate cancer may ‘cluster’ in families [6]
  • risk of disease doubles if one first-line relative has had prostate cancer [26]
• family history of breast cancer, ovarian cancer, bladder, or kidney cancer
• ethnic origin [6,30]:
  • men of black-Caribbean and black-African origin have a 3-fold higher risk of developing prostate cancer than men of caucasian origin [6,30]
  • the lowest incidence of prostate cancer is between men of Oriental and Asian origin [6] – however, after migration, the risk increases to that of the indigenous population [29]
• geography – the highest incidence of prostate cancer is currently seen in North America and Northern Europe [26]
  * BRCA gene mutation – men with BRCA1 or BRCA2 gene mutations have a 30% increased risk of developing prostate cancer compared with men without the mutation [30]

The specific causes of prostate cancer remain unknown [25].

Prostate cancer - suspected

NB: This information appears on each page of this care map.

2 Information resources for patients and carers

Quick info:
Patients and carers in England can access this care map through NHS Choices at http://healthguides.mapofmedicine.com/choices/map/prostate_cancer1.html

The following resources have been produced by organisations certified by The Information Standard:

- 'Prostate cancer' (URL) from Bupa at http://www.bupa.co.uk/
- 'Prostate cancer' (URL) from Cancer Research UK at http://www.cancerresearchuk.org/
- 'Prostate cancer' (URL) from Datapharm at http://www.medguides.medicines.org.uk
- 'Prostate cancer' (URL) from Macmillan Cancer Support at http://www.macmillan.org.uk
- 'Understanding NICE guidance: Prostate cancer' (PDF) from National Institute for Health and Clinical Excellence (NICE) at http://www.nice.org.uk
- 'Prostate cancer' (PDF) from Patient UK at http://www.patient.co.uk
- 'Information' (URL) from The Prostate Cancer Charity at http://www.prostate-cancer.org.uk

The following resources have been written or recommended by national policy bodies or guideline producers whose content has informed this care map:

- 'Prostate cancer' (URL) from Clinical Knowledge Summaries (CKS) at http://www.cks.nhs.uk

Information for carers and people with disabilities is available at:

- 'Caring for someone' (URL) from Directgov at http://www.direct.gov.uk
- 'Disabled people' (URL) from Directgov at http://www.direct.gov.uk

Explanations of clinical laboratory tests used in diagnosis and treatment are available at 'Understanding Your Tests' (URL) from Lab Tests Online-UK at http://www.labtestsonline.org.uk

The Map of Medicine is committed to providing high quality health and social care information for patients and carers. For details on how these resources are identified, please see Map of Medicine Patient and Carer Information.

NB: This information appears on each page of this care map.

3 Updates to this care map

Quick info:
Date of publication: 29-Apr-2011

This care map has been updated in line with the following guidelines:


Further information was provided by the following references: [25,27,28,29,32]. For more information, please see the care map's Provenance.

NB: This information appears on each page of this care map.

4 Prostate cancer - clinical presentation

Quick info:

Prostate cancer is often asymptomatic and usually diagnosed following a finding of elevated prostate-specific antigen (PSA) during a routine check up.

Primary disease features:
Prostate cancer - suspected

- lower urinary tract symptoms (LUTS) – Clinical Knowledge Summaries (CKS) state that LUTS are common in older men and rarely the presenting symptom of prostate cancer; however, locally advanced prostate cancer may cause obstructive LUTS:
  - dysuria
  - urinary hesitancy
  - urinary frequency
  - nocturia
  - haematuria

Metastatic disease features:
- symptoms of obstructive uropathy
- erectile dysfunction
- lower back pain
- bone pain

Systemic features of malignancy:
- lethargy
- anaemia
- weight loss (especially in the elderly)
- anorexia
- lymphadenopathy

This information was drawn from the following references:

5 History

Quick info:
Ask patient about history of:
- lower urinary tract symptoms (LUTS), such as:
  - urinary urgency
  - nocturia
  - frequency
  - hesitancy
  - postmicturition dribble
  - poor stream
  - incomplete voiding
  - haematuria
- sexual dysfunction
- haemospermia
- bone pain

This information was drawn from the following references:

6 Examination

Quick info:
Examination should include:
General physical examination:
- pallor
- lymphadenopathy
Prostate cancer - suspected

- signs of uraemia/renal compromise
- wasting/cachexia
- neurological assessment

Digital rectal examination (DRE):
- assess for:
  - enlargement
  - induration
  - asymmetry
  - nodularity
  - state of the median sulcus

  - typical findings include asymmetrical prostate gland with nodular enlargement and obliteration of the median sulcus; however
  - the gland may appear normal on examination or smooth and enlarged as seen in benign prostatic hyperplasia (BPH)
  - an abnormal DRE is an indication for biopsy
  - should be performed by someone who performs them regularly
  - drawbacks to DRE are that it:
    - is unable to detect tumours in the anterior and medial lobes of the prostate
    - appears to be of limited value in detecting early localised cancer

This information was drawn from the following references:


7 Investigations

Quick info:

Carry out the following initial investigations:

- urine dipstick analysis to assess for haematuria and urinary tract infection (UTI)
- check electrolytes and urea to assess renal function
- serum prostate-specific antigen (PSA) estimation [30]:
  - elevated serum PSA does not confirm prostate cancer as:
    - 65% of men with raised PSA will not have cancer
    - up to 25% of men with cancer will not have raised PSA levels

Prior to testing the patient should not have:

- a urinary tract infection (UTI) – postpone PSA test for at least 1 month following treatment of urinary infection [9,30]
- ejaculated within the previous 48 hours [6,30]
- exercised vigorously in the previous 48 hours [6,30]
- had a digital rectal examination (DRE) in the previous week [6,30]
- had a prostate biopsy in the previous 6 weeks; or [6]
- if there is an obvious cause for the increased PSA level repeat the PSA test in 4-6 weeks [30]

If the PSA level is high [30]:

- consider whether to advise the man that there is a substantial chance that the test result is a false positive; however
- bear in mind that the higher the PSA level, the greater the risk of prostate cancer

When interpreting a PSA result, use age-specific thresholds for referring men as having suspected prostate cancer [30]:

- if the PSA level is slightly above the threshold, take into account any risk factors for high-grade prostate cancer when deciding whether to refer, obtain specialist advice, or repeat the test
- local laboratories may have different referral thresholds
The Prostate Cancer Risk Management Programme (PCRMC) aims to ensure that all men considering a PSA test, without symptoms of prostate cancer, are informed of limitations and risks associated with the test [6]; information sources include [6]:

- reference booklet for GPs discussing all the available evidence
- a summary sheet for GPs to help in consultations with the patient
- a patient information sheet
- Cancer Research UK statistics on prostate cancer

Computerised PSA decision aids [30]:

- have been developed for men considering having a PSA test
- provide information on:
  - the prostate and prostate cancer
  - risk factors for prostate cancer
- uncertainties when interpreting PSA results and deciding on treatment – examples include:
  - PSA decision aids such as PROSDEX
  - prostate cancer risk calculators such as SWOP

NB: Men are entitled to a free PSA test on the NHS provided they have made an informed decision based on PCRMC material and discussion with their GP [6].

Routine screening for prostate cancer is not national policy, because the benefits have not been shown to clearly outweigh the harms [30].

References:


8 Consider differential diagnoses

Quick info:

Differential diagnoses include:

- benign prostatic hyperplasia (BPH; see ‘Male lower urinary symptoms’ care map) – can be identical to late stage prostate cancer
- prostatic calculi
- prostatic cysts
- prostatic tuberculosis
- prostatitis

This information was drawn from the following references:


9 Integrated care and the multidisciplinary team (MDT)

Quick info:

Multidisciplinary team (MDT) management of a patient with prostate cancer [26]:

- is essential during diagnosis and treatment
- can assist patients in making decisions about treatment specific to:
  - patient disease state
Prostate cancer - suspected

• co-morbidities
• age
• lifestyle/psychosocial factors [29]

Collaboration between MDT members is central to a patient's treatment strategy [26].

The following professionals make up the MDT in a prostate cancer setting:
• urological surgeons [26]
• oncology and urology specialist nurses [26]
• clinical and medical oncologists [26]
• radiologists [26]
• histopathologists [26]
• palliative care specialist [26]
• oncology pharmacists [26]
• social workers [26]
• dieticians [26]
• psychologists [29]

References:

10 RED FLAG!

Quick info:
Urgent referral (to be seen within 2 weeks) is indicated if [9]:
• a hard irregular prostate is felt on digital rectal examination (DRE) [30]
• elevated age-specific prostate-specific antigen (PSA) [30]
• the patient is symptomatic with high PSA levels [30]

If there is doubt as to whether to refer an asymptomatic male with a borderline level of PSA [9]:
• repeat PSA after 1-3 months
• if second test indicates PSA is rising (ie PSA velocity is abnormally high), refer urgently [30]

If in doubt, consider obtaining specialist advice about referral [30]:
• have a lower threshold for referral or obtaining specialist advice if the man is of black African or black Caribbean ethnicity
• have a higher threshold for referral or obtaining specialist advice if the man has had a prostate biopsy that failed to reveal cancer

NB: Referral (and PSA testing) may not be necessary if the man has co-morbidities that compromise his clinical state or significantly shorten his life expectancy [30]:
• discuss the options with the man and his carers
• consider obtaining advice from a specialist in urological cancer

References:

11 Consider non-urgent referral to urologist

Quick info:
Non-urgent referral is indicated if [9]:
• the prostate is enlarged
• the prostate-specific antigen (PSA) is in the age-specific reference range
• bothersome urinary symptoms are present

If there is doubt as to whether to refer an asymptomatic male with a borderline level of PSA [9]:
• repeat PSA after 1-3 months
• if second test indicates PSA is rising (ie PSA velocity is abnormally high), refer urgently [30]

If in doubt, consider obtaining specialist advice about referral [30]:
• have a lower threshold for referral or obtaining specialist advice if the man is of black African or black Caribbean ethnicity
Prostate cancer - suspected

- have a higher threshold for referral or obtaining specialist advice if the man has had a prostate biopsy that failed to reveal cancer

NB: Referral (and PSA testing) may not be necessary if the man has co-morbidities that compromise his clinical state or significantly shorten his life expectancy [30]:
- discuss the options with the man and his carers
- consider obtaining advice from a specialist in urological cancer

References:
Prostate cancer - suspected

Key Dates

Published: 18-Jul-2011, by International
Valid until: 30-Nov-2012

Accreditations

The care map is accredited by:

The Chief Knowledge Officer of the NHS:

Disclaimer

Evidence summary for Prostate cancer - suspected

This pathway has been developed according to the Map of Medicine editorial methodology (http://mapofmedicine.com/whatisatemap/editorialmethodology). The content of this pathway is based on high-quality guidelines [1-3,5-7,9,11,20,24,26,30,31] and critically appraised meta-analyses and systematic reviews [10,12-19,21-23,25,32]. Practice-based knowledge has been added by contributors with front-line clinical experience [4,8,29], including any literature endorsed by the contributor group [27,28].

Search date: Dec-2010

References

This is a list of all the references that have passed critical appraisal for use in the care map Prostate cancer

ID Reference
Prostate cancer - suspected

ID Reference


http://www.ncbi.nlm.nih.gov/pubmed/19035858?dopt=Citation

http://www.ncbi.nlm.nih.gov/pubmed/9052476?dopt=Citation

29 Contributors invited by Map of Medicine. 2011.

http://www.cks.nhs.uk/prostate_cancer

http://guidance.nice.org.uk/nicemedia/live/12352/51300/51300.doc

http://www.ncbi.nlm.nih.gov/pubmed/10744594?dopt=Citation

Published: 18-Jul-2011    Valid until: 30-Nov-2012 © Map of Medicine Ltd   All rights reserved

This care map was published by International. A printed version of this document is not controlled so may not be up-to-date with the latest clinical information.
Prostate cancer - suspected

Disclaimers

The Chief Knowledge Officer of the NHS

It is not the function of the Chief Knowledge Officer of the NHS to substitute for the role of the clinician, but to support the clinician in enabling access to know-how and knowledge. Users of the Map of Medicine are therefore urged to use their own professional judgement to ensure that the patient receives the best possible care. Whilst reasonable efforts have been made to ensure the accuracy of the information on this online clinical knowledge resource, we cannot guarantee its correctness or completeness. The information on the Map of Medicine is subject to change and we cannot guarantee that it is up-to-date.