1. EPIDEMIOLOGY AND AETIOLOGY:

Prostate cancer (PCa) was estimated as the 4th most common cancer in Europe in 2020, and is by far the most frequent cancer and the third predicted cause of all cancer deaths among males.

Incidence and disease stage distribution patterns follow biological, genetic, and/or lifestyle factors, but are also influenced by (inter)national organisations’ recommendations on the use of PSA testing.

2. CLASSIFICATION AND STAGING SYSTEMS:

Clinical Tumour Node Metastasis (TNM) classification of PCa:

- Primary Tumour (T):
  - T0: No evidence of primary tumour
  - T1a: Clinically insignificant tumour that is not palpable
  - T1b: Clinically insignificant tumour in 5% or less of tissue resected
  - T1c: Clinically insignificant tumour identified by needle biopsy (e.g., because of elevated prostate-specific antigen (PSA))
  - T2: Tumour that is palpable and confined within the prostate
    - T2a: Involves one half of one lobe
    - T2b: Involves more than half of one lobe, but not both lobes
    - T2c: Involves both lobes
  - T3: Tumour extends through the prostate capsule
    - T3a: Extracapsular extension (anterior or bilateral)
    - T3b: Involves seminal vesicles
    - T3c: Involves fixed or unfixed adjacent structures other than seminal vesicles, extraperitoneal, low pelvic vessels, rectum, levator muscles, and/or pelvic wall

3. DIAGNOSTIC EVALUATION I: SCREENING OR EARLY DETECTION:

Screening (population or mass): systematic examination of asymptomatic men to identify individuals at risk (Not recommended by any country/society.)

Early detection: an individualised risk-adapted strategy to well informed man (Recommended)

4. GUIDELINES FOR GERMLINE TESTING:

Increasing evidence supports the implementation of genetic counselling and germline testing in early detection and PCa management.

5. CLINICAL DIAGNOSIS:

Prostate cancer is usually suspected on the basis of digital rectal examination (DRE) and/or PSA levels.

6. DIGITAL RECTAL EXAMINATION:

An abnormal DRE is associated with an increased risk of a higher ISUP grade. and is an indication for MRI and biopsy.

7. PROSTATE-SPECIFIC ANTIGEN (PSA):

PSA is organ but not cancer specific. It is a continuous parameter, with higher levels indicating greater likelihood of PCa.

8. RISK CALCULATORS:

by combining clinical data (age, DRE findings, PSA level, etc.) may help determine the potential risk of cancer on an individual basis, thereby reducing the number of unnecessary biopsies.

9. MAGNETIC RESONANCE IMAGING (MRI):

Do not use MRI as an initial screening tool, but in patients with clinical suspicion of prostate cancer perform it before prostate biopsy (Strong).

10. BIOMARKERS:

- Blood based biomarkers
- Urine biomarkers

11. Gleason score (GS) and International Society of Urological Pathology (ISUP) 2014:

The most extensive (primary) pattern, plus the second most common (secondary) pattern.

In the original Gleason grading system, 5 Gleason grades (1–5), but in the 2005 and subsequent 2014 ISUP Gleason score Modifications, Gleason grades 1 and 2 were eliminated.

12. EAU risk groups for biochemical recurrence of localised and locally advanced PCa:

<table>
<thead>
<tr>
<th>Gleason score</th>
<th>ISUP grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>7 (4+3)</td>
<td>2</td>
</tr>
<tr>
<td>7 (4+3)</td>
<td>3</td>
</tr>
<tr>
<td>8 (4+4 or 3+5) or 7(4+3)</td>
<td>4</td>
</tr>
<tr>
<td>9-10</td>
<td>5</td>
</tr>
</tbody>
</table>

13. Summary of evidence (LE)

- Prostate cancer is a major health concern in men, with incidence mainly dependent on age.
- (Benefit factors are associated with risk of aggressive PCa)
- A variety of dietary/environmental factors have been associated with PCa incidence and progression.
- Selenium or vitamin-D supplements have no beneficial effect in preventing PCa.
- In hypogonadal men, testosterone supplements do not increase the risk of PCa.
- No conclusive data exist which could support specific preventive or dietary measures aimed at reducing the risk of developing PCa.

14. Recommendations

- Use the Tumour Node Metastasis (TNM) classification for staging of PCa:
- Use the International Society of Urological Pathology (ISUP) 2014 system for grading of PCa.

- In asymptomatic men with a prostate-specific antigen (PSA) level between 3–10 ng/mL and a normal digital rectal examination (DRE), repeat the PSA test prior to further investigations.

- In asymptomatic men with a PSA level between 2–10 ng/mL and a normal DRE, use one of the following tools for biopsy indication:
  - Risk-calculator;
  - Magnetic resonance imaging of the prostate;
  - an additional serum, urine or tissue-based biomark test.

- Do not subject men to prostate-specific antigen (PSA) testing without counseling them on the potential risks and benefits.

- Offer an individualised risk-adapted strategy for early detection to a well-informed man and a life-expectancy of at least 10 to 15 years.

- Offer early PSA testing to well-informed men at elevated risk of having PCa:
  - men from 50 years of age;
  - men from 45 years of age and a family history of PCa;
  - men of African descent from 45 years of age;
  - men carrying BRCA2 mutations from 40 years of age.

- Offer a risk-adapted strategy (based on initial PSA level), with follow-up intervals of 2 years for those initially at risk:
  - men with a PSA level of > 1 ng/mL, at 40 years of age;
  - men with a PSA level of > 2 ng/mL at 60 years of age;
  - Postpone follow-up to 6 years in those not at risk.

- Stop early diagnosis of PCa based on life expectancy and performance status; men who have a life-expectancy of < 15 years are unlikely to benefit.

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