Fatherhood status and risk of prostate cancer in PCBaSE 2.0

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Prostate cancer

Figure 2a: The ten most frequent cancer sites, males

- Prostate: 33.4%
- Skin, excl melanoma: 10.0%
- Colon: 7.0%
- Trachea, bronchus, lung & pleura: 6.7%
- Urinary organs, excl. kidney: 6.4%
- Malignant melanoma of skin: 5.0%
- Rectum and anus: 4.1%
- Non-Hodgkin lymphoma: 3.0%
- Kidney: 2.3%
- Nervous system: 2.2%
Prostate cancer in Sweden

Influence of PSA-screening?
Risk factors

- Age, ethnicity, family history
- Possibly also testosterone levels
- Infertile men lower levels of testosterone
- Hard to study male infertility
- Fatherhood status proxy
Fatherhood status

• Two large register-based studies
• Childless men approx. 15-20 % lower risk $^{1,2}$

• Confounders?
  – Marital status?
  – Education?
  – Co-morbidity?
  – Other, healthy life-style, exercise?


Aim of the study

1) Further study this association with regard to potential confounders
   - marital status, education, co-morbidity

2) Study specifically different tumour categories
Prostate Cancer database Sweden 2.0 (PCBaSE)

NPCR - The National Prostate Cancer Register

LISA database - Longitudinal integration database for health insurance and labour market studies

The Cause of Death Register

The Swedish cancer register

The Register of prescribed drugs

The Swedish Multi-generation register

The National Patient Register

Hagel Scand J Urol Nephrol 2009
This study in PCBaSe 2.0³

<table>
<thead>
<tr>
<th>Register</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Prostate Cancer Register</td>
<td>Cases of prostate cancer (n=117 328) and tumour characteristics</td>
</tr>
<tr>
<td>The Register of the total population</td>
<td>Matched controls (n= 562 644)</td>
</tr>
<tr>
<td>The Multi-Generation Register</td>
<td>Number of children</td>
</tr>
<tr>
<td>LISA database</td>
<td>Educational level and marital status</td>
</tr>
<tr>
<td>The National Patient Register</td>
<td>Comorbidity</td>
</tr>
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Results (removed due to unpublished data)
Conclusion

- Childless men have a lower risk of prostate cancer
- Biology/confounding?
- Further analysis
- Implication?
Thanks to:

Anders Berglund for forest plots.

PCBaSe
Pär Stattin, Anna Bill-Axelson, Olof Akre, Mats Lambe, Jan Adolfsson, Hans Garmo

NPCR steering commitee
Anders Widmark, Stefan Carlsson, Magnus Törnblom, Jan Adolfsson, Anna Bill-Axelson, Ove Andrén, David Robinson, Bill Pettersson, Jonas Hugosson, Jan-Erik Damber, Ola Bratt, Göran Ahlgren, och Lars Egevad
Risk categories at diagnosis

- According to the National Comprehensive Cancer Network 4
  - **Low risk**: T1-2, Gleason score = 6 and PSA < 10 ng/mL.
  - **Medium risk**: T1-2, Gleason score 7 and/or PSA 10 to < 20 ng/mL.
  - **High risk**: T3-4 and/or Gleason score 8-10 and/or PSA 20 to < 50 ng/mL.
  - **Regionally metastatic disease**: N1 and/or PSA 50 to < 100 ng/mL in abscense of distant metastasis (M0 or Mx).
  - **Distant metastasis**: M1 and/or PSA ≥ 100 ng/mL