Early Prostate Cancer
On prognostic markers and predictors of treatment outcome after radical prostatectomy

Akademisk avhandling

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The thesis is based on the following papers:


V) Khatami A, Aus G, Damber J-E, Lilja H, Wessman C, Hugosson J. PSA doubling time (PSADT) is influenced by prostate volume and the presence of high-grade cancer. Results from the European Randomized Study of Screening for Prostate Cancer (ERSPC) Sweden section. *Manuscript*
Early Prostate Cancer
On prognostic markers and predictors of treatment outcome
after radical prostatectomy

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Abstract

The incidence of prostate cancer (PC) has increased by 4.6% annually in Sweden during the
past ten years. Today’s clinically used prognostic markers are not accurate enough to separate
the potentially life-threatening tumours from the insignificant ones in 50-80% of newly
diagnosed PCs.

Curative treatment of all men with early PC results in substantial overtreatment and
subsequently a large number of men would suffer from the side effects of this treatment.
There is an urgent need for more accurate prognostic tools to distinguish the insignificant PC
from the potentially lethal PC in its early stage.

We studied whether an initial period of surveillance in these patients might decrease their
chance of cure by radical prostatectomy.

The prognostic significance of tumour vascularity (TVC) from biopsy was evaluated.
The outcome in 270 consequent screening-detected PC patients under active surveillance was
studied and PSA doubling time (PSADT) as a predictor of outcome was evaluated.
The proliferation marker Ki-67 was evaluated as a prognostic marker.
The factors that influence the variations in PSADT were explored in the entire cohort in the
screening study and in the men with PC.

The results revealed that up to two years of surveillance in patients with early PC did not
reduce the chance of cure by radical prostatectomy.
TVC and Ki.67 were both significantly correlated to PSA relapse after prostatectomy.
However, these markers could not improve the prognostic information generated from
routinely used markers.

Some 61% of patients were treatment-free after a follow-up period of 63 months in the active
surveillance cohort. No patient has developed bone metastasis or died from PC. Fourteen
patients died for reasons other than PC during the follow-up. PSADT was the only significant
predictor of PSA relapse after radical prostatectomy in this cohort of patients.

PSADT is mainly influenced by prostate volume and the presence of high-grade PC.

The active surveillance approach offers an alternative to active treatment in patients with
early-detected, low-stage, low-grade PC. PSADT seems to be a useful, reliable and
discriminating prognostic marker of disease progression and active treatment during the
follow-up of patients with screening-detected early PC who opt for the active surveillance
strategy.

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