

# Relative Survival of Prostate Cancer Patients in the Canton of Zurich, Switzerland – A Population based Study

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## Conclusion

Our results confirm findings from previous studies, stating that prostate cancer patients have a good RS if cancer is diagnosed at an early stage. We observed an association of age, T-stage and grade with treatment choices as recommended in official guidelines, which say that patients with a life expectation of more than 10 years should be treated. RS above 100% very likely indicates a selection bias due to PSA screening, which tends to be more often used by men with a health-conscious behavior.

## Background

Prostate cancer is the most frequent incident cancer in men in Switzerland<sup>1</sup>. The purpose of this study was to estimate relative survival (RS) of prostate cancer patients who lived in the Canton of Zurich focusing on primary treatment choices, grade, T-stage and age of the patients.

## Methods

Relative survival of 1591 prostate cancer patients diagnosed in 2000/01 was estimated according to the Ederer II approach<sup>2</sup>. Multiple imputation methods<sup>3</sup> were applied to missing data on T-stage and grade. Multinomial logistic regression analyses were used to explore the association of T-stage, grade and age with treatment choices.

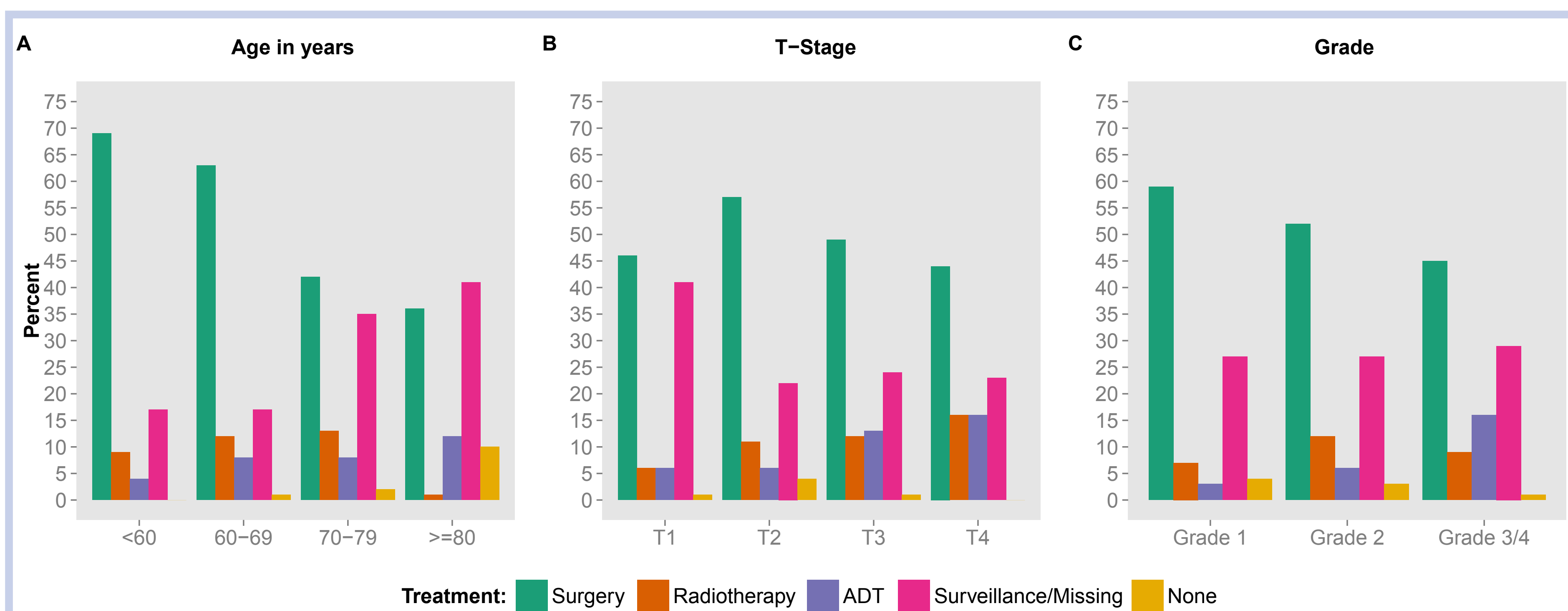


Fig.1: Treatment choices grouped by A: age groups, B: T-stages and C: tumor grade

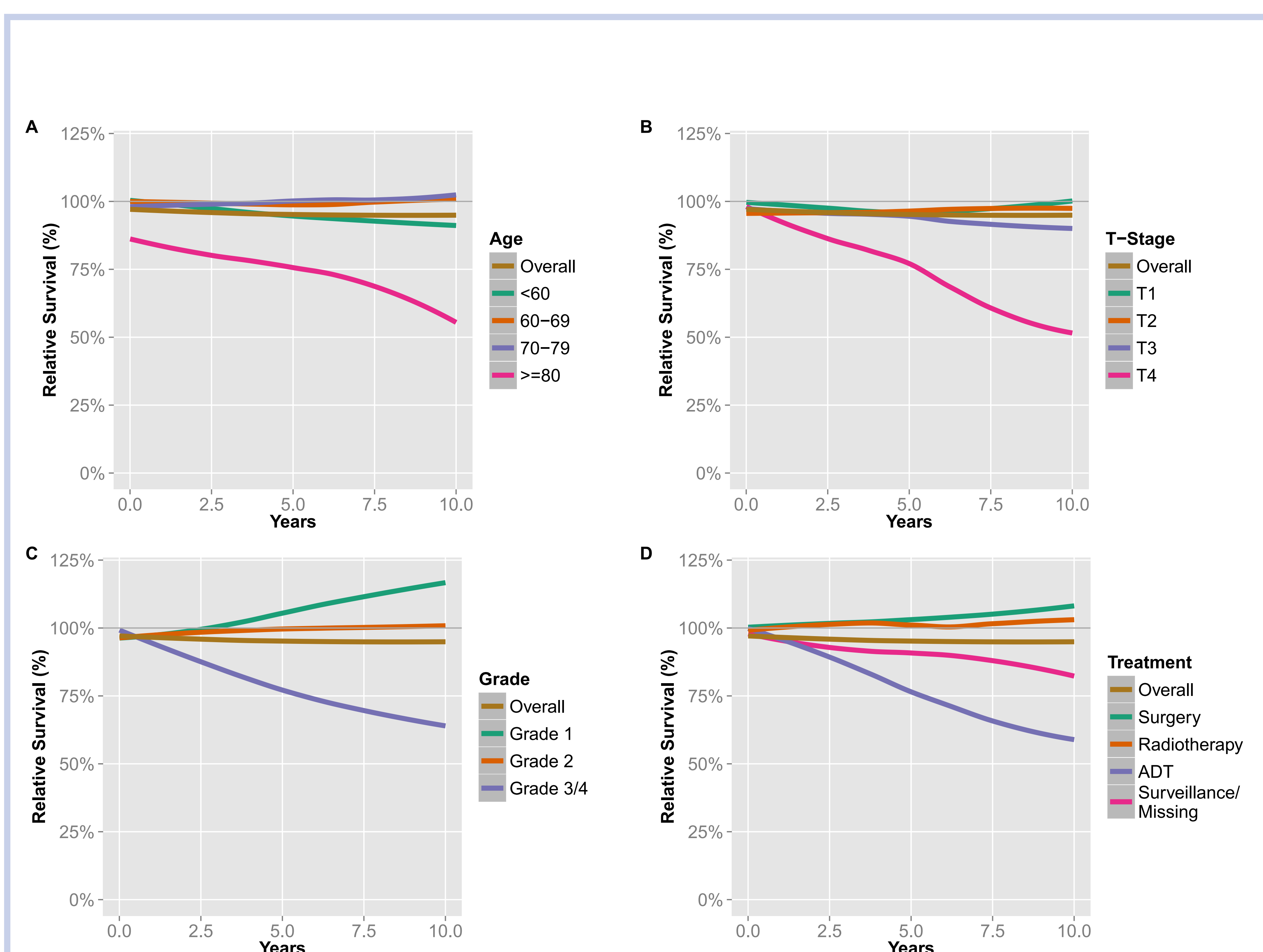


Fig.2: Relative survival estimates of prostate cancer patients grouped by A: age groups, B: T-stages, C: tumor grade and D: treatment

## Results

Figure 1 shows the distributions of treatment choices, grouped by age groups, T-stages and tumor grade. Compared to non-surgical treatments, surgical procedures were more prevalent in patients aged < 70 years than in patients aged  $\geq$  70 years (OR=2.70 [95%CI 2.19 – 3.33]), whereas surveillance was more frequent in patients aged  $\geq$  70 years (OR=2.82 [2.20 – 3.64]). The odds of men aged  $\geq$  80 years treated with radiotherapy over surgery is 0.24 [0.07–0.88] compared with age <60, while the odds of men aged  $\geq$  80 years treated with androgen deprivation therapy (ADT) is 4.57 [1.90 – 11.00]). In addition, the higher the tumor grade the higher the odds of being treated with ADT. Moreover, the odds of men with a grade 2 tumor treated with ADT compared to surgery is 2.39 [1.01–5.66] and for a grade 3/4 tumor 5.82 [2.40 - 14.10], compared with men having a grade 1 tumor.

In Figure 2, RS grouped by age, T-stage, grade and treatment is illustrated. Overall, 1-, 5- and 10-year RS was 97% [95%-98%], 95% [92%-98%] and 95% [90%-99%], respectively. 1- and 10-year RS of men aged < 80 years was close to 100%, for men aged  $\geq$  80 years RS decreased (1 year: 83%, 10 years: 54%) (Fig. 2A). When stratified by T-stage (Fig. 2B) or grade (Fig. 2C), RS was highest for men having a T1 and T2 or grade 1 and grade 2 tumor (1 year: 100%, 10 years: > 100%), respectively compared to grade 3/4 (1 year: 95%, 10 years: 63%) or T4 tumor (1 year: 92%, 10 years: 52%), respectively. RS among patients treated with ADT was considerably lower (1 year: 95%, 10 years: 57%) than for patients who underwent surgical procedures or radiotherapy (1 and 10 years > 100%) (Fig. 2D).

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