Abstract Objective. The aim of this study was to analyse relative survival, excess mortality and gain in life expectancy in men who underwent radical prostatectomy (RP) for localized prostate cancer (PCa) between 1995 and 2011 in Denmark. Material and methods. The study population comprised the complete cohort of 6489 men who underwent RP between 1995 and 2011. Risk of mortality was calculated using a competing risk model. Relative survival, excess mortality rate (EMR) and gain in life expectancy in men undergoing RP were calculated using a matched cohort Danish population based on date of birth and date of surgery. Results. During follow-up 328 patients died, 109 (33.2%) of PCa and 219 (66.8%) of other causes. The cumulative incidence of PCa mortality was 5.8% [95% confidence interval (CI) 4.4, 7.2] after 10 years. Relative survival was significantly above 1.0 for RP patients, except for high-risk patients. EMR was -9.34 (95% CI -10.56, -8.13) after 10 years, i.e. nine men would die in excess of the general population. Overall, the gain in life expectancy in men undergoing RP compared with the general population was 0.41 years. Conclusion. This population-based study demonstrated that the gain in life expectancy with RP compared with the general population in Denmark is minimal.

KEYWORDS: Competing risk; excess mortality; localized prostate cancer; radical prostatectomy; relative survival; standardized mortality ratio

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