OBJECTIVE: In patients with a long life expectancy with high-risk (HR) prostate cancer (PCa), the chance to die from PCa is not negligible and may change significantly according to the time elapsed from surgery. The aim of this study was to evaluate long-term survival patterns in young patients treated with radical prostatectomy (RP) for HRPCa.

MATERIALS AND METHODS: Within a multiinstitutional cohort, 600 young patients (≤59 years) treated with RP between 1987 and 2012 for HRPCa (defined as at least one of the following adverse characteristics: prostate specific antigen>20, cT3 or higher, biopsy Gleason sum 8-10) were identified. Smoothed cumulative incidence plot was performed to assess cancer-specific mortality (CSM) and other cause mortality (OCM) rates at 10, 15, and 20 years after RP. The same analyses were performed to assess the 5-year probability of CSM and OCM in patients who survived 5, 10, and 15 years after RP. A multivariable competing risk regression model was fitted to identify predictors of CSM and OCM.

RESULTS: The 10-, 15- and 20-year CSM and OCM rates were 11.6% and 5.5% vs. 15.5% and 13.5% vs. 18.4% and 19.3%, respectively. The 5-year probability of CSM and OCM rates among patients who survived at 5, 10, and 15 years after RP, were 6.4% and 2.7% vs. 4.6% and 9.6% vs. 4.2% and 8.2%, respectively. Year of surgery, pathological stage and Gleason score, surgical margin status and lymph node invasion were the major determinants of CSM (all P≤0.03). Conversely, none of the covariates was significantly associated with OCM (all P≥ 0.09).

CONCLUSIONS: Very long-term cancer control in young high-risk patients after RP is highly satisfactory. The probability of dying from PCa in young patients is the leading cause of death during the first 10 years of survivorship after RP. Thereafter, mortality not related to PCa became the main cause of death. Consequently, surgery should be consider among young patients with high-risk disease and strict PCa follow-up should enforce during the first 10 years of survivorship after RP.