PubMed

Format: Abstract

Minerva Urol Nefrol. 2018 Dec 14. doi: 10.23736/S0393-2249.18.03285-X. [Epub ahead of print]

Oncologic outcomes in prostate cancer patients treated with robot-assisted radical prostatectomy: results from a single institution series with more than 10 years follow up.

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BACKGROUND: Robot-assisted radical prostatectomy (RARP) has gained increasing diffusion as standard of care in the surgical treatment of **prostate cancer** (PCa) patients, even in the absence of robust long-term oncologic comparative data. To report oncologic outcomes of RARP at more than 10 years follow up.

METHODS: We retrospectively evaluated 173 consecutive PCa patients underwent RARP between 2002 and 2005 at a single European center with complete clinic and pathologic data and potential follow up of at least 10 years. Kaplan-Meier analyses assessed biochemical recurrence free survival (BCR-FS), clinical recurrence free survival (CR-FS), **cancer** specific mortality free survival (CSM-FS), other causes mortality free survival (OCM-FS) in the overall population and CR-FS after stratification according to pathologic stage and Gleason score. Multi-variable Cox regression analyses were performed to assess the predictors of BCR and CR.

RESULTS: Median follow up (Interquatile Range [IQR]) was 133 (123-145) months. The BCR-FS, CR-FS, CSM-FS and OCM-FS rates at median follow up were 73.4%, 81.1%, 95.7%, and 68.6%, respectively. Patients staged as pT3b-T4 and men with Gleason score 8-10 experienced significantly lower CR-FS rates as compared to those with less aggressive pathologic features (all p≤0.001). At multivariable analysis, pathologic Gleason score 8-10 (Hazard Ratio [HR]: 2.85), pathologic stage pT3b-pT4 (HR: 2.76) and adjuvant therapy (HR: 2.09 for radiotherapy [RT] and

HR: 13.66 for androgen deprivation therapy [ADT]) were independent predictors of BCR (all p≤0.02). While, pathologic Gleason score 8-10 (HR: 4.05) and pathologic stage pT3b-pT4 (HR: 6.78) were found to be independently related to higher risk of CR (all p≤0.03). Retrospective data and limited number of patients included could have affected our analyses.

CONCLUSIONS: In experienced centres, RARP allows optimal oncologic outcomes at long term follow up. Adverse pathologic characteristics are independent predictors of BCR and CR.

PMID: 30547906 DOI: 10.23736/S0393-2249.18.03285-X