Expansion of Lymph Node Dissection Can Enhance Survival in Patients with Intermediate and High Risk Prostate Cancer

Introduction and Objective: The aim of our study was to evaluate biochemical progression-free survival (PFS) in intermediate and high risk prostate cancer (PC) patients who had undergone radical prostatectomy (RPE) and PLND.
Materials and Methods: Retrospective analysis of database from 595 patients after RPE and PLND since 2006 till 2011 in our institution was performed. There were 288 consecutive patients with intermediate and high risk PC (PSA>10 ng/ml, clinical stage ≥T2b, biopsy Gleason score ≥7, percentage of positive biopsy cores ≥50%) included for analysis. According to anatomical regions of PLND performed, patients were divided in to 3 groups: standard PLND was performed in 39 (13.5%) patients; extended PLND (E-PLND) in 137 (47.6%) and super extended PLND (SE-PLND) in 112 (38.9%) patients. LN metastases were verified in 2 (5.1%), 26 (18.9%) and 38 (33.9%) patients respectively (p=0.003). Patients with LN metastases were excluded from the further survival analysis. Mean number of LN removed was 13.6±6.9 (4-31); 23.3±7.2 (12-56) and 29.1±7.9 (15-52) respectively (p<0.0001); mean PSA level was 11.1±5.6 ng/ml; 13.7±9.3 ng/ml and 16.4±10.6 ng/ml respectively (p=0.04); mean percentage of positive biopsy cores was 43.4±27.5%; 47.2±23.9% and 55.2±27.3% respectively (p=0.05). Biopsy Gleason score was significantly more favorable in S-PLND group of patients (p=0.0002). Biochemical recurrence was assessed as elevation of PSA>0.2 ng/ml on three consecutive measurements.
Results: Median follow up time was 25 months (3-72 months). During this period biochemical recurrences were observed in 10(27%) patients in S-PLND group, in 13(11.7%) patients in E-PLND and in 8(10.8%) patients in SE-PLND group. Cumulative 3-year PFS rate was 64.6±10.1% for patients in S-PLND group, 84.4±7.7% in E-PLND group and 81.49±9.9% in SE-PLND group (p=0.035). More extended PLND with removing >20 LN was associated with significantly increasing PFS rates. Comparing cumulative 38-month PFS in subgroup of patients with ≤10 and >20 LN removed PFS rates were 36.9% and 76.5% respectively (p=0.003).
Conclusions: E-PLND and SE-PLND are more accurate for LN staging in PC patients. S-PLND is associated with worse survival and should not be performed in cases of intermediate and high risk PC. Extensive E-PLND and SE-PLND with removing >20 LN could be recommended in this group of patients to achieve better PFS.