Predictive Value of Preoperative Prostate-Specific Antigen and Gleason Score in Patients with High Risk Prostate Cancer

Introduction: Tumor stage, prostate-specific antigen (PSA) and Gleason score (GS) are well known prognostic parameters in patients (pts) with prostate cancer (PC), related to disease-specific survival, overall survival, risk from recurrence and progression of disease. With this study we wanted to estimate predictive value of preoperative PSA and GS , separately and together, related to margin (M), seminal vesicle (SV) and lymph node (LN) involvement in pts with high risk PC who underwent radical retropubic prostatectomy (RRP).

Material and Methods: During the period of 2005-2010, 362 pts with PC underwent surgery (RRP) at our Clinic. There are 40/362(11.4%) who have been classified as high risk PC according to PSA> 20ng/ml and GS>8(8-10). RRP has been done for all of them. Adjuvant radio or chemotherapy (or nothing) was administrated in accordance to definitive PH findings and established protocols. All pts were divided in three groups: first -with PSA >20ng/ml, second-with GS >8, third-with and PSA >20ng/ml and GS>8. Involvement of SV,M and LN have been estimated on definitive postoperative PH findings.

Results: *In the first group* of pts (17pts, PSA>20ng/ml), *12/17 pts (70%) had no M,SV,LN involvement*. There were 5/17pts (30%) who had positive 1-3 parameters: 2/17(11.7%)-M, SV, LN were positive, 2/12(11.7%)-M were positive, and 1/17(5.6%)-LN were positive. *In the second group* (15pts,GS>8*), 5/15(33,3% pts) had no M,SV,LN involvement.* There were 10/15 pts (66,7%) who had 1-3 positive parameters:1/15(6,6%)-M, SV, LN were positive, 3/15 (20%) had SV positive, and 5/15 (33,3%) had positive SV and LN. *In the third group* (8 pts, PSA >20ng/ml and GS > 8) *1/8 pts (12,5%) had no positive M,SV,LN involvement.* But , 7/8pts (87,5%) had positive some of parameters: 1pt (12,5%)-positive M, SV,LN,   1pt (12,5%)-positive M, 1pt (12,5%)-positive SV and LN, 2pts (25%)-positive SV and M, 2pts (25%)-positive SV.

Conclusions: Our results suggest that preoperative and PSA>20mg/ml and GS>8, together, have significantly higher predictive value for SV, M, LN involvement than PSA or GS separately, in pts with high risk PC. According to these results we would presume and tailor future adequate multimodal therapy in this group of pts. In the future, we need larger studies to make these results more reliable.