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## **Determination of preoperative PSA and Gleason score from punch biopsy alone is limited in the prediction of lymph node metastasis in prostate carcinoma patients**

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### **Introduction & Objectives:**

It is common practice in many hospitals to withhold pelvic lymphadenectomy [pLA] from patients with locally confined prostate carcinoma undergoing radical prostatectomy [RP] due to the combination of preoperative PSA < 10 ng/ml and Gleason score < 7. This way of proceeding was analyzed retrospectively in patients operated on in a single institution.

### **Material & Methods:**

Based on prospectively sampled database patients undergoing RP and pLA were evaluated if they showed a preoperative PSA < 10 ng/ml and a Gleason score from the biopsy < 7. For this reason the patients were additionally stratified according to their clinical stage and the extent of pLA. Finally the incidence of lymph node metastasis in all subgroups was determined and the influence of both the clinical stage and the extent of pLA (limited versus extended) on it examined.

### **Results:**

During the surveillance period between 06/1997 and 10/2004 365 patients with clinical stage T1-T2c, Gleason score from the biopsy < 7 and preoperative PSA < 10 ng/ml underwent RP and pLA. In 60 patients an extended pLA (16.4 %) and in further 285 a limited pLA (78.1 %) was performed. 20 cases (5.5 %) remained without specification. The medium PSA of all patients was 6.4 ng/ml (0.5-9.95 ng/ml) and their medium age was 65 years (40-78 yrs). Lymph node metastasis was found in 12 of 365 patients (3.3 %). There were positive lymph nodes in 4 of 60 patients (6.7 %) undergoing extended dissection and 8 of 285 patients (2.8 %) undergoing limited dissection [n.s.]. The subgroup with clinical stage T1-T2a (n=266) showed lymph node metastasis in 2.6 % (n=7) and the subgroup with clinical stage T2b-T2c (n=99) in 5.1 % (n=5) [n.s.]. Positive lymph nodes in patients staged T1-T2a were

found in 4.8 % of cases (2/42) after extended and in 2.4 % (5/207) after limited dissection [n.s.]. The distribution of lymph node metastasis in patients with clinical stage T2b-T2c was 11.1 % (2/18) after extended and 3.8 % (3/78) after limited pLA [n.s.].

### **Conclusions:**

Withholding pLA just because of the combination of preoperative PSA < 10 ng/ml and Gleason score from the biopsy < 7 involves the significant risk of missed lymph node metastasis in some patients. Thus, such a way of proceeding is inappropriate and should be avoided in the clinical routine. A far more accurate prediction can be achieved simply by using a 3-variable model adding the clinical stage. However, if lymph node dissection is indicated it should always be performed in extended margins.