

## **Correlation between Gleason Score of Needle Biopsy and Radical Prostatectomy Specimen: Clinical Implication and Prognostic Impact**

**Introduction and Objective:** Discrepancies between the Gleason score (GS) on needle biopsy (NB) and the GS of the radical prostatectomy (RP) specimen is a common finding. The aim of our analysis was to assess the prognostic significance and the clinical implication of this discordance, with respect of outcomes following RP.

**Materials and Methods:** Between 2000 and 2009, 265 men have undergone RP. Our patients were categorized as having NB=RP (67.7%), NB<RP (28.1%), NB>RP (4.2%), and stratified for statistical analyses into RP GS sub groups. The Kaplan-Meier method was used to analyze differences in biochemical recurrence-free survival (BRFS), and multivariate Cox analyses were used to calculate the independent relative risk of local and systemic progression correlated to GS discordance.

**Results:** Across multiple prostatectomy specimen GS strata (3+4, 7, 8-10), patients with a lower needle biopsy GS significantly better BRFS than patients with equal NB and RP GS ( $p<0.05$ ). NB<RP Gleason score was independently associated with better BRFS ( $p=0.002$ ); within and across RP GS strata. Similarly, patients with NB>RP Gleason score had poorer BRFS than patients with NB=RP GS across multiple RP GS strata (<3+3, 3+3, 3+4, >3+4); all  $p<0.05$ ). NB>RP GS was independently associated with worse BRFS rate.

**Conclusions:** Our analysis suggest that the GS of the NB adds additional prognostic value to the RP GS in a rational approach that could be applicable, in our daily practice, to strategies of risk stratification and patient counseling after radical prostatectomy.