Is small prostate volume a predictor of Gleason score upgrading after radical prostatectomy?

Chung MS, Lee SH, Lee DH, Chung BH.

Department of Urology, Gangnam Severance Hospital, Yonsei University Health System, 211 Eonju-ro, Gangnam-gu, Seoul 135-720, Korea. chung646@yuhs.ac.

Abstract

PURPOSE: We aimed to analyze the relationship between prostate volume and Gleason score (GS) upgrading [higher GS category in the radical prostatectomy (RP) specimen than in the prostate biopsy] in Korean men.

MATERIALS AND METHODS: We retrospectively analyzed the medical records of 247 men who underwent RP between May 2006 and April 2011 at our institution. Transrectal ultrasound (TRUS) volume was categorized as 25 cm³ or less (n=61), 25 to 40 cm³ (n=121) and greater than 40 cm³ (n=65). GS was examined as a categorical variable of 6 or less, 3+4 and 4+3 or greater. The relationship between TRUS volume and upgrading of GS was analyzed using multivariate logistic regression.

RESULTS: Overall, 87 patients (35.2%) were upgraded, 20 (8.1%) were downgraded, and 140 (56.7%) had identical biopsy and pathological Gleason sum groups. Smaller TRUS volume was significantly associated with increased likelihood of upgrading (p trend=0.022). Men with prostates 25 cm³ or less had more than 2.7 times the risk of disease being upgraded relative to men with TRUS volumes more than 40 cm³ (OR 2.718, 95% CI 1.403-8.126).

CONCLUSION: In our study, smaller prostate volumes were at increased risk for GS upgrading after RP. This finding should be kept in mind when making treatment decisions for men with prostate cancer that appears to be of a low grade on biopsy, especially in Asian urologic fields.

KEYWORDS: Prostatic neoplasms, biopsy, prostatectomy

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