

Clinical Outcome of Patients Who Underwent Radical Prostatectomy for Anterior Prostate Cancer Detected with Targeted Biopsy by Using Real-Time Virtual Sonography

Introduction and Objective: We performed prostate-targeted biopsy by using Real-time Virtual Sonography (RVS) for patients suspected to have prostate cancer with magnetic resonance imaging (MRI). In addition, we evaluated the clinical outcome of the patients who underwent radical prostatectomy for anterior prostate cancer detected using this method.

Materials and Methods: From February 2007 to December 2011, we performed prostate-targeted biopsy by using RVS for 168 patients suspected to have prostate cancer with MRI and detected prostate cancer in 101 (60%) patients. We evaluated the histopathological grade and clinical outcome of 28 patients with anterior prostate cancer who underwent radical prostatectomy.

Results: In the 28 patients, the median age was 67 years (56-74 years) and median prostate-specific antigen (PSA) level was 9.1ng/mL (5.04-27.9ng/mL). The targeted biopsy was performed for 31 lesions, and 25 (81%) lesions showed positive results. Two lesions with cores that showed negative results yielded false-positive MRI results. The Gleason score for the main tumor was as follows: 3+3, 3 patients; 3+4, 13 patients; 3+5, 2 patients; 4+3, 4 patients; 4+4, 1 patient; 4+5, 4 patients; and 5+4, 1 patient. The median tumor size was 22 mm (9-48 mm). The tumor-node-metastasis (TNM) classification was pT2: 19 patients and pT3:9 patients and 12 patients revealed positive surgical margin (43%). In median follow-up period of 30 months (5-48 months), only 2 patients showed PSA recurrence, and the 5-year PSA failure-free survival rate was 95%.

Conclusion: Patients with anterior prostate cancer detected using RVS showed a high Gleason score and positive surgical margin rate was not as low as 43% in this study. The PSA failure-free rate was good. Although there were small number of patients and short follow-up period, diagnosis by using RVS is exact and useful.