Time Trends in Tumor Aggressiveness after Radical Prostatectomy for Prostate Cancer in Korea

Introduction and Objective: Prostate-specific antigen (PSA) screening has resulted in a profound clinical stage migration. We reviewed the trends in the changes of the clinicopathologic characteristics for patients with prostate cancer in Korea.
Materials and Methods: We collected data from 2,851 who underwent radical prostatectomy (RP) at our institution between 2000 and 2011. Of them, patients who had received hormonal therapy or radiation therapy before RP were excluded, and 2,508 patients with pathologically confirmed prostate cancer were included in this study. We analyzed the trends in the changes of pathologic Gleason scores (GS), pathologic stage and preoperative prostate-specific antigen (PSA) with the progression of time.
Results: Of the 2,508 patients, 1,703 (67.9%) had preoperative PSA level of less than 10ng/ml, 1,518 (62.9%) presented organ-confined disease and 1,457 (58.1%) had a pathologic GS 7. The proportion of PSA levels less than 10ng/ml increased from 34.2% to 72.0% with the progression of time ($p<0.001$). The incidence of pT3b tumors decreased from 15.8 to 8.6% ($p=0.029$). Although the proportion of GS 8 or greater decreased from 57.9% to 20.1% and the proportion of GS 6 or less increased from 13.2% to 17.3% ($p=0.001$), the proportion of high GS (7 or greater) was still more than 80% over the study period. These values were significantly higher than those in the Western reports. On the other hand, the proportion of pathologic stage and pathologic GS had no significant differences in PSA less than 10ng/ml group.
Conclusions: Downward migration of preoperative PSA, pathologic stage and pathologic GS were evident with the progression of time. However, a significant proportion of prostate cancer arising in Korean men exhibits poor differentiation, regardless of the initial serum PSA concentration.