Clinical Outcome of High Dose Rate Brachytherapy with External Beam Radiotherapy for Clinically Localized Prostate Cancer

Introduction and Objectives: A retrospective review was carried out on 192 consecutive patients with clinically localized prostate cancer who treated with high dose rate brachytherapy (HDR) with conformal external beam radiation therapy (EBRT) to clarify the prognostic factors.
Materials and Methods: Between March 2000 and Nov 2010, a total of 192 patients with tumor stage T1c-T3b N0 M0 prostate cancer were treated with HDR brachytherapy boost doses (7.5 Gy/fraction) and 50-Gy EBRT during a 5.5-week period. Median follow-up was 44 months. All patients had never undergone neoadjuvant nor adjuvant hormonal therapy. Biochemical failure was defined according to the updated Radiation Therapy Oncology Group-ASTRO Phoenix consensus panel: PSA nadir + 2ng/ml at the call date. Preoperative and postoperative parameters were assessed as a prognostic factor by univariate and multivariate analysis to predict biochemical progression.
Results: Biochemical progression was observed in 50 (26.0%) of the 192 patients during the follow-up period. The overall biochemical recurrence-free rate was 78.1% at three years and 65.9% at 5 years. Five cancer-specific deaths and 24 another-cause deaths were observed during the follow-up period. According to multivariate Cox analysis, pretreatment PSA level, biopsy Gleason grade, and clinical T stage were observed significantly independent prognostic factors.
Conclusion: In the current study, we described the usefulness of the high dose rate brachytherapy boosted with conformal external beam radiation therapy.