

Image-guided stereotactic body radiation therapy for localized prostate cancer

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ABSTRACT

Purpose. We report the results of a retrospective study of stereotactic body radiation therapy (SBRT) using CyberKnife for localized prostate cancer. The study focused on the safety and feasibility of this treatment modality.

Materials and methods. Between October 2002 and December 2007, 44 patients suffering from localized adenocarcinoma of the prostate were treated with SBRT using CyberKnife at the Korea Cancer Center Hospital. The patients were divided into 3 groups: a low-risk group (5 patients), an intermediate-risk group (10 patients), and a high-risk group (29 patients). Five patients received 32 Gy in 4 fractions, 28 patients received 34 Gy in 4 fractions, and 11 patients received 36 Gy in 4 fractions.

Results. The median age of the patients was 69 years (range, 53-79 years) and the median duration of follow-up 40 months (range, 12-78 months). There were 6 acute and 3 late grade 2 urinary toxicities, and 4 acute and 5 late grade 2 rectal toxicities, but there were no grade 3 or higher treatment-related toxicities. The 5-year cause-specific survival rate and progression-free survival rate were both 100%. At last follow-up, the biochemical failure-free rate of the low-risk, intermediate-risk and high-risk patients was 100%, 100% and 90.8%, respectively.

Conclusion. SBRT using CyberKnife for localized prostate cancer is safe and well tolerated. We obtained promising results with 34 Gy in a 4-fraction regimen especially for the high-risk patients. Free full text available at www.tumorionline.it

Key words: stereotactic body radiation therapy, CyberKnife, localized prostate cancer.

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