

Yaegashi H.¹, Kadomoto S.¹, Naito R.¹, Makino T.¹, Iwamoto H.¹, Nohara T.¹, Shigehara K.¹, Izumi K.¹, Kadono Y.¹, Mizuno E.², Mizokami A.¹

¹Kanazawa University Graduate School of Medical Science, Dept. of Integrative Cancer Therapy and Urology, Kanazawa, Japan, ²Gofuku Neurosurgery Hospital, Toyama Cyberknife Center, Toyama, Japan

Introduction & Objectives: In recent years, stereotactic body radiotherapy (SBRT) has become widespread in various types of cancer, however, sufficient evidence of it for metastatic lesions of urological cancer has not been established yet. We examined the optimum timing and the indication of SBRT.

Materials & Methods: Patients treated with SBRT for metastatic lesion of urological cancer in our department between Feb 2015 and Apr 2018 were evaluated retrospectively. Based on medical records, age at SBRT, ECOG-PS, types of cancer, irradiated site, presence/absence of adverse events were extracted. The treatment evaluation was performed by change in radiological findings, a transition of tumor marker and continuation or disappearance of subjective symptoms.

Results: Of 16 patients, 29 lesions could be analyzed. The median age at the time of SBRT was 67 years, and the median ECOG-PS was 0. The numbers of cases of prostate cancer, renal cell cancer, renal pelvic cancer, ureteral cancer and bladder cancer were 11, 2, 1, 1 and 1, respectively. Irradiation was performed for 15 lesions of lung metastases, 12 lesions of bone metastases, 1 lesion of lymph node metastasis and 1 lesion of adrenal metastasis. The median reduction rate for lung tumor at the most recent assessment was 30.9%. Among the 14 lesions of prostate cancer, PSA reduction was observed in 9 lesions, and the median PSA reduction rate was 18.6%. In multiple time of irradiation for lung metastatic lesions in the same case, the local control effect was poor as the disease progressed. With regard to bone lesions, irradiation resulted in alleviation of symptoms in all cases. The adverse events were Grade 2 radiation pneumonitis and Grade 1 radiation sickness.

Conclusions: The therapeutic effect of SBRT was good in bone metastatic lesions. Although limited treatment effect in lung metastases, a certain local control effect was observed. With regard for safety, it could be implemented without problems.