



Stereotactic body radiotherapy for liver cancer shows long-term safety

[Kubo K, et al. *Hepatol Res.* 2017;doi:10.1111/hepr.13063.](#)

February 2, 2018

In a follow-up to a previous study on the safety and efficacy of stereotactic body radiotherapy for patients with small hepatocellular carcinomas, researchers found that incidence of grade 3 or higher adverse events did not increase after longer follow-up times.

“In several reports on the results of HCC treatment with [stereotactic body radiotherapy (SBRT)], the median follow-up duration was close to 30 months and the authors assessed the outcomes at 3 years,” **Katsumaro Kubo, MD**, from the Hiroshima Prefectural Hospital, Japan, and colleagues wrote.

“However, radiation therapy is not considered as an option for the treatment of HCC in the [Barcelona Clinic Liver Cancer (BCLC)] guidelines and the reason may be the uncertainty of the long-term outcomes. To address this concern, we extended the follow-up period and analyzed the long-term outcomes at 5 years.”

In the previous study, 77 patients with a total of 93 tumors underwent SBRT. Patients had either [Child-Pugh class A or B](#) and had fewer than 3 HCC nodules no larger than 50 mm in diameter per lesion. Kubo and colleagues included 65 of the original patients in the new study.

Sixty patients underwent [transarterial chemoembolization \(TACE\)](#) before SBRT and 13 patients underwent TACE within 1 month to 3 months after SBRT. Median follow-up at the time of evaluation was 41 months (range, 3-79 months), while median follow-up for the 26 survivors was 62 months (range, 24-79 months).

In the original study, the 2-year overall survival rate was 76% (95% CI, 65.4-86.7), progression-free survival (PFS) was 40% (95% CI, 27.6-52.3) and local control (LC) was 100%.

Comparatively, the 3-year OS rate was 56.3% (95% CI, 44.1-68.5) and the 5-year OS rate was 41.4% (95% CI, 28.7-54.1). Further, the 3-year PFS rate was 25.4% (95% CI, 14-36.8) and the 5-year PFS rate was 10.6% (95% CI, 1.5-19.8). Both the 3-year and 5-year LC rates were 100%.

Fifteen patients experienced grade 3 or [higher liver toxicities](#) at 6 months follow-up. After 1 year of follow-up, 5 other patients experienced grade 3 or higher liver toxicities. No adverse events worsened in any patients and no patients developed gastrointestinal disorders or ulcers.

Multivariate analysis showed that tumor-node-metastasis stage at treatment was a significant prognostic factor for PFS at 3 years ($P = .0008$) and that grade 3 or higher adverse events were a prognostic factor for OS at 5 years ($P = .0049$).

“Most patients in this study underwent resection and [radiofrequency ablation (RFA)] as initial therapies, which may have confused the results, including the OS and PFS rates,” the researchers wrote. “To compare with surgery or RFA, a prospective study of SBRT in HCC is necessary. If the efficacy and safety of SBRT are proved, it will be added as a treatment option that is comparable to resection or RFA for patients who were considered unfit or refused these other therapies.” – *by Talitha Bennett*

Disclosure: The study was supported by a Grant-in-Aid for Scientific Research from the Ministry of Education, Culture, Sports, Science and Technology of Japan.