

More radionuclide therapy is better for prostate cancer patients

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For prostate cancer patients with bone metastases, repeated administrations of radionuclide therapy with ^{188}Re -HEDP are shown to improve overall survival rates and reduce pain, according to new research published in the November issue of *The Journal of Nuclear Medicine*.

Approximately 50 percent of prostate cancer patients develop [bone metastases](#) that are predominately osteoblastic, that is, have the tendency to fracture resulting in serious morbidity. This type of [bone metastasis](#) often leads to chronic pain syndrome in prostate cancer patients; as many as 50 percent of prostate cancer patients with chronic pain syndrome are reported to receive inadequate pain treatment, which makes them candidates for radionuclide therapy.

The retrospective study, "Palliation and Survival After Repeated ^{188}Re -HEDP Therapy of Hormone-Refractory Bone Metastases of Prostate Cancer: A [Retrospective Analysis](#)," reviewed cases of 60 patients with hormone-refractory prostate cancer. The patients, all of whom had more than five lesions documented by a bone scan, were divided into three groups—those who received one therapy, two therapies or three or more therapies.

"Radionuclide therapy of bone metastases has been used for several decades for those with prostate cancer," noted lead author of the study Hans-Juergen Biersack, MD. "For this study, we developed ^{188}Re -HEDP as a novel radiopharmaceutical which—due to its short half life

of 19 hours—makes sequential therapy possible."

The researchers found that post-treatment survival increased with the number of radionuclide therapies administered. Patients with progressive hormone-refractory prostate cancer receiving one therapy added 4.5 months, those receiving two therapies added 10 months, and those receiving three or more therapies improved their survival by 15.7 months. In addition, while the Gleason scores—a grading system used to evaluate the prognosis of men with [prostate cancer](#)—for each group were similar, the number of life-lost years for patients receiving three or more therapies was significantly lower.

In regards to pain reduction, no significant difference was found among those receiving ¹⁸⁸Re-HEDP therapies. Pain reduction was achieved in 89.5 percent of those receiving one therapy, in 94.7 percent of those receiving two therapies and in 90.9 percent of those receiving three or more therapies.

"For patients failing chemotherapy or hormone treatments, ¹⁸⁸Re-HEDP is a promising therapy that can both extend the number of survival years and help relieve pain from bone metastases," noted Biersack. "The findings support and expand the role of molecular therapy with radioisotopes in oncology."

¹⁸⁸Re-HEDP is not commercially available and in-house production is required. ¹⁸⁸Re-HEDP treatments for this study were developed at Oak Ridge National Laboratory in Oak Ridge, Tenn.

More information: "Palliation and Survival After Repeated ¹⁸⁸Re-HEDP Therapy of Hormone-Refractory Bone Metastases of Prostate Cancer: A Retrospective Analysis", *Journal of Nuclear Medicine*.

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