

Therapy that heats and destroys bone tumors eases patients' pain

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Patients with cancer that has spread to their bones are often treated with radiation therapy to reduce pain. But if that treatment doesn't work, or can't be used again, a second, effective option now exists. Results of a clinical trial on the new therapy, presented by a researcher at Jefferson's Kimmel Cancer Center, is being presented at the annual meeting of the American Society of Clinical Oncology (ASCO).

Mark Hurwitz, MD, Director of Thermal Oncology for the Department of [Radiation Oncology](#) at Thomas Jefferson University and Hospital reported that the treatment, [magnetic resonance image](#)-guided focused ultrasound (MRIgFU) [ablation therapy](#), significantly reduced pain in 67 percent of patients who received the treatment. The device, known as ExAblate, uses numerous small ultrasound beams designed to converge on a tumor within bone, heat it and destroy it.

"Pain is a common, often debilitating symptom of the spread of cancer to bones. We are pleased to now have a second therapy that can improve a patient's enjoyment of life," says Dr. Hurwitz, who led the clinical trial. A number of cancers spread to bones, and a substantial proportion of patients live for years with these [metastases](#), which can have a profound impact on a patient's quality of life, he adds.

The findings of the trial led to approval of ExAblate last October by the U.S. [Food and Drug Administration](#) as second-line therapy for palliation of painful metastatic bone tumors. The first-line therapy is typically radiotherapy.

"The response to ExAblate was as good as radiotherapy, which was notable because it is very unusual to see a second-line treatment with a response rate that is as high as first-line therapy," Dr. Hurwitz says.

He added that use of ExAblate offers several advantages compared to other ablative therapies. "It is non-invasive and provides more detailed anatomic information so that we can visualize the complete beam path to make sure that critical structures such as vessels and nerves are not in the way," Dr. Hurwitz says. "We are also able to monitor the temperature in the tumor as well as in nearby normal tissues so that we do not inadvertently heat normal organs and tissues."

ExAblate has also been approved for treatment of uterine fibroids.

The study led by Dr. Hurwitz is a multicenter, randomized and placebo-controlled phase three clinical trial. The 142 patients enrolled could either not undergo, or had not responded to, radiation treatment.

Three months after ExAblate therapy, 67 percent of treated patients reported significant improvement in pain, compared to 21 percent in the placebo arm. They typically rated their pain as "much improved" or "very much improved," Dr. Hurwitz says. A quality of life assessment also measured significant improvement.

"The treatment is given just once, and a response occurs within days," he says. "There are a lot of patients who could potentially benefit from MR guided focused ultrasound."

Provided by Thomas Jefferson University

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