

# Freezing bone cancer tumors reduces pain, study shows

**Cryoablation, a procedure most commonly associated with destroying kidney and prostate tumors by freezing them, has been shown to offer durable pain relief of cancer that has spread to bone. The procedure freezes and shrinks or destroys cancerous tumors in or near bone.**

“Cancer patients are living longer and we need to be able to manage their pain over a long period of time,” says Matthew Callstrom, M.D., Ph.D., a radiologist at Mayo Clinic who will present his latest findings on cryoablation for pain management at the Radiological Society of North America (RSNA) annual meeting this week (Nov. 27).

Each year in the United States approximately 100,000 people develop cancer that spreads to the bone (metastasizes). This type of cancer causes extreme pain and often cannot be managed by narcotics or other standard treatments. New approaches in pain management are needed to help patients living longer with cancer, achieve a higher quality of life.

In this study, cryoablation was used to treat 34 patients whose primary cancers had spread to the bone. These patients either did not have success with conventional pain management treatments or refused such treatments. Eighty percent of the patients experienced a clinically significant reduction in pain. Furthermore, the treatment appears to have lasting effects: 24 weeks after undergoing the procedure, patients still reported significantly lower levels of pain.

“Two key parts of this study are that the reduction in pain lasts and their quality of life improves after receiving the treatment,” Dr. Callstrom says.

These results are important for two reasons: first, cryoablation worked after other treatments failed to provide adequate pain relief; second, cryoablation provides long-term pain relief. Radiation therapy, which is considered the gold standard in pain management for patients with focal pain associated with metastatic cancer, provides only short-term relief for many patients, he states.

Dr. Callstrom recently received a \$900,000 grant from the National Cancer Institute to lead a nationwide study to compare cryoablation and radiation therapy as treatment for pain associated with metastatic cancer. This will be a randomized study in which patients will receive either cryoablation or radiation therapy.

Cryoablation is a more precise treatment as compared to radiation therapy. Doctors use imaging tools, such as CT, to guide small needle-like probes into the tumor. Gas is then circulated through the probes, supercooling the tumor and turning it into a ball of ice.

The procedure calls for a probe inserted directly into the tumor with ultrasound or CT imaging guiding the way. It is a minimally invasive procedure in which only a ¼ inch long cut is required to insert the probe. Patients are usually sedated for the procedure and released 24 hours later. The recovery time is short and patients typically start experiencing pain relief within a few days to four weeks after treatment.

Patients in this study had primary cancers that included colorectal, renal cell, bronchogenic, squamous cell, adrenal cortical, ovarian and thyroid carcinomas, paragangliomas (tumors that arise within the sympathetic nervous system), melanoma and desmoid tumors (tumors of tissue that surrounds muscles).

Source: Mayo Clinic

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