

New Technique Offers Hope For Pain Relief And Improved Mobility For Patients With Spinal Tumors

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A radiologist at the University of California, San Diego (UCSD) School of Medicine has developed a new procedure to treat fractured vertebrae caused by spinal tumors, a procedure that may decrease the risk of complications, which are experienced by 5 to 10% of patients with malignant tumors of the spine.

Wade Wong, D.O.F.A.C.R, UCSD professor of radiology, and San Diego clinician Bassem Georgy, M.D., partially removed spinal tumors from 28 patients before repairing the spine with vertebroplasty – a procedure to cement and stabilize damaged vertebrae. He used a technology that utilizes plasma-mediated radiofrequency energy combined with saline solution to gently and precisely remove soft tissue at low temperature – minimizing damage to healthy tissue.

"This image-guided procedure guarantees ultimate accuracy," said Wong. It enables us to provide pain relief and improved mobility to patients while minimizing risks that have traditionally limited treatment options for cancer patients."

Wong will present his study on May 6 at the American Society of Interventional and Therapeutic Neuroradiology (ASITN.) He added that some patients in the study who were previously bedridden became much more active after their fractures were repaired using this method, increasing their overall quality of life.

Vertebral compression fractures (VCFs) are common complications of spinal tumors. Approximately 10 percent of the estimated one million VCFs that occur each year in the United States are caused by spinal metastases. Unfortunately, spinal tumors present challenges that traditionally have left many cancer patients with very few treatment options. Open surgery is invasive and involves a long recovery. Traditional vertebroplasty and kyphoplasty – two procedures that utilize bone cement to stabilize the fractured vertebrae – are also risky when a tumor is present, because the procedures can cause cancerous cells to spread into the blood stream. They also carry a higher risk of bone cement leaking out of the vertebral body into the spinal canal, potentially leading to paralysis.

Wong removed the tumor prior to vertebroplasty on 28 patients using the plasma-mediated procedure commonly known as the “Coblation SpineWand.” Following the partial removal of the tumor, bone cement was injected into the cavity created by the process in order to stabilize the fractured bone fragments. The researchers report that all 28 patients treated in the study experienced decreased pain and improved function.

“I never dreamed it would be this successful,” said Wong, adding that when first approached the ArthroCare Corporation, manufacturers of the Coblation process, they were skeptical. The device was already in use for other medical applications, such as ear, nose and throat surgery, and arthroscopic applications. “Generally, a cancerous lesion of the spine can eat away at the bone, which can cause a mass in the spinal canal resulting in paralysis or great pain,” Wong said.

The process first removes tumor bulk, then delivers cement to strength the vertebrae, which reduces pain.

“It’s like creating a cast to a fracture,” said Wong, “but in the inside of the body instead of on the outside.”

Using the process doesn’t preclude other treatments, such as chemo or radiation therapy. Though the process doesn’t cure the cancer, it can add to the quality of life for the patient.

“Even in patients with a malignancy, it doesn’t mean it’s the end of their life. This procedure allows them to resume activities, like walking or even rollerblading, that they enjoyed before,” said Wong, adding, “Quality of life is what’s key.”

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