

Lateral Extracavity Corpectomy for Spine Tumors is Effective & Safe

t 70, ST, began to have difficulty walking. He presented with persistent, progressive back pain unrelated to level of activity and refractory to medication. After an X-ray and MRI revealed the presence of a tumor on his spine at T6, a percutaneous needle biopsy identified the lesion as a solitary plasmacytoma.

To stabilize the spine and resect the tumor, a lateral extracavitary corpectomy — which allows for the simultaneous exposure of the posterior bony elements and anterior vertebral column through the same, small incision — was performed at Winthrop-University Hospital by neurosurgeon Benjamin Cohen, MD, who specializes in spine surgery, and Marc Agulnick, MD, the Hospital's Chief of Orthopaedic Spine Surgery.

After stabilizing the spine posteriorly with pedicle screws and hooks linked together with rods on either side of the spinal column, they accessed the front of the spine by resecting a section of the posterior rib on one side. Through that one small portal, the diseased vertebra was removed, the stabilizing instrumentation was affixed, and an expandable, titanium mesh cage filled with the resected rib was placed to produce a bone graft, facilitate spinal fusion and create a new, cancer-free "vertebra."

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Benjamin Cohen, MD

This technically challenging surgery requires extraordinary skill, experience and thorough knowledge of the thoracic and retroperitoneal anatomy. "A lateral extracavitary corpectomy affords us more than enough exposure for decompression, grafting and restoration of normal column height and alignment," explained Dr. Cohen, who teams with Dr. Agulnick frequently on such cases.

Dr. Agulnick added: "This less invasive approach is especially attractive when anterior decompression must be combined with posterior fusion. With one operation, instead of a much more lengthy and involved two-stage procedure, we can access the anterior lateral aspects of the spine and dura without exposing the anterior thoracic or abdominal cavity."

Spine Tumor Surgery... Continued

Spinal masses, which vary greatly, are characterized by type and location: extradural tumors, which affect the vertebrae, are mostly metastatic; intraduralextramedullary tumors — generally benign — develop in the meninges, nerve roots or at the base of the spinal cord; and intramedullary lesions, which can be benign or malignant, begin in the supporting cells within the spinal cord.

Given the wide range of spinal lesions, Drs. Cohen and Agulnick routinely make treatment decisions together with a multidisciplinary team of other Winthrop specialists, including neuroradiologists; general, vascular and thoracic surgeons; radiation, medical and neuro-oncologists; and interventional radiologists. To design the safest and most effective treatment plans, they take into account the type and location of the tumor, progression of neurological symptoms and degree of spinal stability, as well as the patient's age and overall health.

ST's case was typical of many they encounter. "Most of the neoplasms we see are metastatic," said Dr. Cohen. "The challenge is to use the least invasive method to remove as much of the diseased tissue as possible, decompress the neural elements, maintain mechanical stability, preserve or improve neurological function, alleviate pain and enhance quality of life — always focusing on limiting patient risk and morbidity." They met the challenge with ST, who is now cancer-free, walks normally and has no back pain. In fact, over the past year, he recovered well enough to land a 100-lb. fish on a recent outing.

For more information, call the Institute for Neurosciences at 1-866-NEURO-RX or visit www.winthrop.org.



Pre-operative saggita MRI of thoracic spine with contrast showing tumor

Pre-operative saggital and coronal CT reconstructions of the thoracic spine

Post-operative anterior/posterior and lateral X-rays of the thoracic spine showing spinal stabilization reconstruction