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Endoscopic removal of spinal tumor with the patient awake at Rhode Island Hospital

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The spinal tumor grew back. Even though the 16-year old patient endured surgery a year earlier to remove and diagnose the lesion, it was back and its cause unknown. Determined to identify the tumor tissue and set the patient on an appropriate treatment regimen, Albert Telfeian, M.D., a neurosurgeon at Rhode Island Hospital and Hasbro Children's Hospital, performed the first reported case of extracting the tumor endoscopically while the patient was awake and under a local anesthetic. The minimally invasive procedure enabled accurate diagnosis, which evaded multiple physicians previously. The case report was published online in the journal, *Clinical Neurology and Neurosurgery*, and will appear in the July 2015 issue.

With the tumor compressing her spinal cord, just behind her heart (in the ventral thoracic epidural space), Telfeian offered to extract it endoscopically, which had never been performed in this area of the spine before. With the patient awake, she can report to the surgeon the sensations of pain and numbness as well as cooperate in motor testing during the procedure. Under general anesthesia, that is not possible.

"In the past, this type of surgery required either a costotransversectomy or trans-thoracic approach, both extensive procedures," said Telfeian. "When favorable conditions exist, like they did here situated in or adjacent to the neural foramen, this transforaminal endoscopic approach offers a minimally invasive option without general anesthesia. The blood loss was minimal and the patient was on her feet and discharged within 24 hours."

Twelve months earlier, the patient underwent spinal surgery after a lesion was detected on an MRI. Despite achieving a gross-total resection—meaning that the surgeon has removed all visible tumor - reviews by numerous pathologists at multiple institutions yielded no diagnosis. Radiation therapy followed when the tumor reappeared, and despite further testing via PET imaging, spinal tap and bone marrow biopsy, the diagnosis remained a mystery.

As an expert in minimally invasive surgery, which is crucial for infants and children to minimize their pain and improve their outcomes, Telfeian offered the option of a transforaminal endoscopic biopsy and partial resection to the teenaged patient. Pathology confirmed the diagnosis of Ewings sarcoma and the patient began a successful course of chemotherapy according to standard treatment practices.

Provided by Lifespan

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