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Images in Anesthesiology: Transient Paraplegia after Anesthesia for Magnetic Resonance Imaging

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AN 8-yr-old girl developed kyphosis and myelopathy after treatment for Ewing sarcoma.¹ Her thoracic kyphosis (144°) had resulted in myelopathy, gait disturbance, and urinary incontinence (fig.). Halo traction had been instituted 3 months before preparing for C7–T11 posterior spinal fusion. The magnetic resonance imaging (MRI) findings are marked kyphosis of the thoracic spine, with marked narrowing of the spinal canal over the kyphotic deformity, worst at the apex at the T5–T6 level (arrow).

To obtain the MRI, halo-gravity traction was discontinued in the hours before the study. She was sedated with propofol and received supplemental oxygen by nasal cannula. Spontaneous ventilation was maintained without airway instrumentation. Blood pressures were within 85% of awake measures during the 90-min MRI. She complained of paralysis on emergence. Examination revealed flaccid lower-extremity paralysis. She did not respond to painful toe touch. She had no light touch sensation of the legs and lower abdomen. Halo traction was reestablished, and within 2 h, mo-

tor and sensory effects returned to baseline. A posterior spinal fusion was performed the day after the MRI, and her myelopathy continued to improve throughout her 2-week hospitalization.

Children with thoracic kyphosis are at increased risk of experiencing myelopathy and neurologic deficits during correction surgery when compared with children with other forms of scoliosis.^{1,2} The discontinuation of halo traction, positioning during the MRI procedure, or hemodynamic changes associated with propofol anesthesia could all potentially contribute to the transient deficit. Maintaining halo traction with a nonferromagnetic device during MRI might have reduced the likelihood of the transient paralysis, but the pins still can transmit thermal and vibratory energy, leading to scalp burns.³ The potential for neurologic injury in children with kyphosis requires vigilance and attention to those factors that may be associated with neurologic deterioration, such as the release of halo traction, patient positioning, and maintaining hemodynamic stability.

References

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