



Laminectomy at T4 and T5 for Resection of Symptomatic Cavernous Malformation

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- Cavernous malformation
- Microsurgery
- Spinal cavernoma

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Although rare, intramedullary spinal cavernous malformations have a 1.4%–6.8% annual hemorrhage risk and can cause significant morbidity.¹ Prior hemorrhage and size >1 cm are risk factors for future hemorrhage that, in addition to notable or progressive symptoms, may justify early surgical intervention.^{1,2} In this video, we present key steps in surgical management of a large, symptomatic thoracic cavernous malformation. A 56-year-old woman presented with worsening lower extremity weakness, imbalance, and difficulty ambulating. Strength was 3/5 in her right lower extremity and 4/5 in her left lower extremity. She had an incomplete T4 sensory level and hyperreflexia. Magnetic resonance imaging demonstrated a heterogeneous “popcorn”-appearing expansile intradural intramedullary 2.2- × 1.2-cm lesion at T4-5, consistent with a cavernous malformation. Angiography was deferred given the characteristic magnetic resonance imaging appearance. Given her progressive symptoms (including weakness), lesion size, and good health, resection was recommended. Using neurological monitoring, a T4-5 laminectomy, midline myelotomy, and piecemeal microsurgical resection of the lesion was performed, clearly identifying the cavernoma–spinal cord interface and avoiding spinal cord retraction. Histopathology confirmed a cavernoma. Postoperatively, the patient had improved left lower extremity strength and stable right lower extremity strength but worsened dorsiflexion (1/5), which improved with rehabilitation. At 1-year follow-up, she had full strength in her left lower extremity and 4/5 in her right lower extremity, with mild paresthesias below T10. Consistent with prior series demonstrating low complication rates and good long-term neurological outcomes,² microsurgical resection of selected symptomatic intramedullary spinal cavernous malformations can halt neurological decline and potentially improve neurological function.

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