Mystery Case: Giant cervico-thoraco-lumbar intraspinal arachnoid cyst

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A 23-year-old woman presented with a 3-month history of increasing weakness and numbness of bilateral legs and dysuria. MRI demonstrated an extensive spinal dorsal cystic lesion from C7 to L2 (figure, A and B). The patient underwent a T9-11 laminectomy, and a cyst-peritoneal shunt was performed using a catheter. Pathology confirmed a diagnosis of arachnoid cyst (figure, C). The cyst reduced in size significantly (figure, D), and the patient is asymptomatic over a 42-month follow-up. Intraspinal arachnoid cysts extending to more than 10 vertebral segments are rare,¹ and cyst-peritoneal shunt for mass effect relief is recommended when complete resection is difficult.²

AUTHOR CONTRIBUTIONS

Liang Wu: drafting/revising the manuscript, study concept and design. Yulun Xu: study concept and design and study supervision. Tao Yang: analysis and acquisition of data. Xiaofeng Deng: revising the manuscript. Chenlong Yang: analysis and interpretation of the data.

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DISCLOSURE

The authors report no disclosures relevant to the manuscript. Go to Neurology.org for full disclosures.

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MYSTERY CASE RESPONSES

The Mystery Case series was initiated by the *Neurology*® Resident & Fellow Section to develop the clinical reasoning skills of trainees. Residency programs, medical student preceptors, and individuals were invited to use this Mystery Case as an educational tool. Responses were solicited through a group e-mail sent to the American Academy of Neurology Consortium of Neurology Residents and Fellows and through social media.

All the responses we received came from individuals rather than groups. None of the respondents provided an accurate answer, but 25% of them correctly identified the patient's extensive cervico-thoraco-lumbar lesion as being cystic in nature, given its homogenous hyperintensity comparable to the CSF, and 8% recognized that the histologic specimen

Figure Spinal MRI and histopathology

Sagittal (A) and axial (B) T2-weighted spine MRI demonstrate a giant intraspinal cystic mass, extending from C7 to L2, located dorsal to the spinal cord. Photomicrograph (C) reveals fibrous connective tissue lined by arachnoid cells, suggestive of an arachnoid cyst. Postoperative follow-up sagittal (D) T2-weighted spine MRI reveals the cyst reduced in size and the mass effect relieved.

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showed connective tissue. In fact, this 23-year-old patient had a giant arachnoid cyst—the sagittal and axial T2-weighted spine MRI (figure, A and B) demonstrate a dorsal intraspinal cystic mass extending from C7 to L2, while the pathology (figure, C) shows fibrous connective tissue lined by arachnoid cells.

Such extensive intraspinal arachnoid cysts are rare, but when associated with mass effect as in this case, a cyst-peritoneal shunt can be performed given the difficulty of complete resection. The original authors of this case report

indicated that the patient was asymptomatic at 42-month follow-up postlaminectomy (T9-11) and catheter shunting, and provided a postoperative image (figure, D) demonstrating a marked reduction in the size of the cyst and relief of the mass effect.

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