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Chronic *Coccidioides immitis* Meningitis

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Spinal arachnoid cysts are intraspinal, extramedullary fluid collections. They may be congenital or acquired, with secondary cysts arising from trauma, inflammation, hemorrhage, or spinal procedures. These fluid collections can remain asymptomatic or produce signs and symptoms of myelopathy and/or radiculopathy.¹²

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Coccidioides immitis disseminated to the central nervous system (CNS) may manifest as meningitis, hydrocephalus, vasculitis infarction, spinal arachnoiditis, or rarely cerebral or spinal abscesses.³⁻⁵ Spinal arachnoid cyst as a consequence of chronic Coccidioides meningitis has not been previously described in the literature.

A 35 year old woman with a history of Coccidioides meningitis and systemic lupus erythematosus presented with 3 months of progressive left leg numbness, urinary retention, gait impairment, left leg myoclonus, and lower extremity dysesthesias. Her neurologic exam was notable for hyperreflexia and spasticity in both lower extremities along with bilateral Babinski signs. She was admitted for expedited MRI of the spinal cord, which showed a non-enhancing, T2 hyper-intense, extra-axial fluid collection extending from C5 to T4. This fluid collection resulted in significant mass effect on the spinal cord and subsequent extensive cord edema from T4-T10 with cord expansion.

The patient underwent a T2-T4 laminectomy for cyst fenestration. Intra-operatively, the cyst was observed to be thickened and densely adherent to the cord circumferentially. CSF analysis was performed, and there were no signs of this being an infectious fluid collection. The fluid was otherwise consistent with a CSF sample obtained from her previously placed VP shunt. After the surgery, her gait and associated symptoms improved.

Chronic coccidiomycosis of the central nervous system generates a persistent inflammatory state involving the meninges of not only the brain but also the spinal cord. As a result, this arachnoiditis predisposes to arachnoid cyst formation, which may range from asymptomatic to symptoms of myelopathy and/or radiculopathy. While *Coccidioides immitis* is known to result in various other CNS manifestations, to our knowledge this is the first case in the literature to describe this specific complication of coccidiomycosis disseminated to the CNS.

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4. Banuelos, A. F., et al. "Central Nervous System Abscesses Due to Coccidioides Species." *Clinical Infectious Diseases*, vol. 22, no. 2, 1996, pp. 246-250.
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Top row: MRI C-spine. From left to right: Left parasagittal T2, Sagittal T2, Left para-sagittal T1, Sagittal T1.

Bottom row: MRI T-spine. From left to right: Right parasagittal T2, Sagittal T2, Right parasagittal T1, Sagittal T1

The voluntary, fully informed consent of the subjects used in this research was obtained as required by 32 CFR 219 and DODM 2216.02, AFI 40-402.