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The Spine Journal 11 (2011) e1–e5

THE SPINE JOURNAL

Case Report

Cysticercosis of lumbar spine, mimicking spinal subarachnoid tumor

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Received 14 July 2010; revised 13 December 2010; accepted 11 February 2011

Abstract

BACKGROUND CONTEXT: Spinal neurocysticercosis (NCC) is a very rare clinical entity. Signs and symptoms may include myelopathy, radiculopathy, or cauda equina syndrome, depending on location of the cyst, and it may mimic more common neuropathology. When the patient does not come from an endemic region and serologic tests fail to yield evidence of the presence of parasites, the diagnosis may only become apparent at surgery.

PURPOSE: To report a case of NCC of lumbar spine with spinal root symptoms, which had only become apparent at surgery.

STUDY DESIGN: Case report.

METHODS: A 72-year-old man presented with progressive lower-extremity weakness and diminished sensation in his left lower extremity. Laboratory evaluation, including serologic tests, was nonspecific. Magnetic resonance imaging revealed a large eccentric mass lesion at lumbar subarachnoid space.

RESULT: Diagnosis was confirmed after surgical excision, and cysticercosis was found to be the etiologic factor.

CONCLUSION: Even when the patient does not come from endemic region and serologic tests fail to yield evidence of the presence of parasites, spinal NCC should be considered in the differential diagnosis with symptoms suggestive of spinal mass lesion.

Keywords: Neurocysticercosis; Lumbar spine; Spinal subarachnoid tumor; *Taenia solium*

Introduction

Cysticercosis is the most common parasitic disease to affect the human central nervous system (CNS) [1,2]. In endemic regions, the incidence of neurocysticercosis (NCC) approaches 4% of the general population [3–5]. The brain is most often affected, whereas spinal cord involvement is rare [4,5]. Authors of most series generally report the incidence of spinal NCC as only 1.5% to 3% of all cases [6–8]. Although spinal NCC is rare, it may mimic more common neuropathology and require aggressive surgical management because of the natural confines of spinal canal [4,5]. In this report, we describe a rare case of L5–S1 level intradural extramedullary NCC, which had no diagnostic clues in terms of clinical history, exposure, serologic tests, or radiographic studies and was diagnosed only after histopathological examination.

History and presentation

A 72-year-old man, living in Seoul (the Republic of Korea) and without remarkable past history, presented with a several-month history of low back pain and radiating pain in left lower extremity that was severely exacerbated after walking. Subsequently, he developed progressive difficulty with ambulation. No history of foreign travel in the past 10 years was noted.

Examination

Neurologic examination revealed weakness of the left great toe flexor with Grade 3 of 5 power. A unilateral

FDA device/drug status: not applicable.

Author disclosures: none.

No funds were received in support of this work. No benefits in any form have been or will be received from a commercial party related directly or indirectly to the subject of this manuscript.

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1529-9430/$ - see front matter
doi:10.1016/j.spinee.2011.02.009

sensory level at L5 was observed. Sphincter function was normal. Magnetic resonance imaging (MRI) study of the lumbar spine revealed a large eccentric mass lesion with compression of the cauda equina at L5–S1 and diffuses scarring throughout the subarachnoid space. Peripheral enhancement on contrast administration was noted (Fig. 1). A postmyelogram X-ray was performed, which demonstrated subarachnoid narrowing at the L5–S1 level (Fig. 2).

The result of laboratory tests and measurements including hemogram, electrolytes, C-reactive protein, and erythrocyte sedimentation rate were normal. The peripheral leukocyte count was 7800/μL with 5.5% eosinophils. Examinations of cerebrospinal fluid and serum enzyme–linked immunoelectric transfer blot assay for cysticercus antibody revealed no abnormalities.

Operation

Considering the patient's clinical history, results of laboratory tests and findings on MRI, preoperatively, a diagnosis of tumor/tuberculoma was considered. The patient subsequently underwent L4–L5, L5–S1 decompressive laminectomy and intradural exploration. Sharp microsurgical dissection was required because of severe densely scarred subarachnoidal space. Gross examination of the lesion showed an oval, white, semitransparent, and friable cystic mass that was easily separated from surrounding arachnoidal adhesions (Fig. 3).

Pathological examination

Histolopathological examination of the cystic lesion revealed a translucent cyst with eosinophilic lining and clear fluid with chronic inflammatory cells consistent with cysticercosis (Fig. 4).

Postoperative course

Postoperatively, his muscle strength improved rapidly to Grade 4 of 5, and no residual lesion was found on follow-up MRI (Fig. 5). Computed tomography scan of the brain was taken and revealed mild hydrocephalus with multiple punctuate calcifications. Because of his mild and stable symptoms, he was discharged on praziquantel. Since then, follow-up was lost for 6 months, and the patient returned with complaints of severe headache. He was referred to department of neurology for intensive care unit care and treated with a course of dexamethasone and praziquantel. A shunting operation was recommended, but the patient and his family refused to take any surgical intervention and discharged from the hospital at will.

Discussion

Neurocysticercosis, caused by infection of the human CNS with the parasite *Taenia solium*, is now recognized as an important public health problem. Neurocysticercosis typically results from ingestion of cysticercal eggs in food contaminated by human or porcine feces [4,5,8]. Dissemination

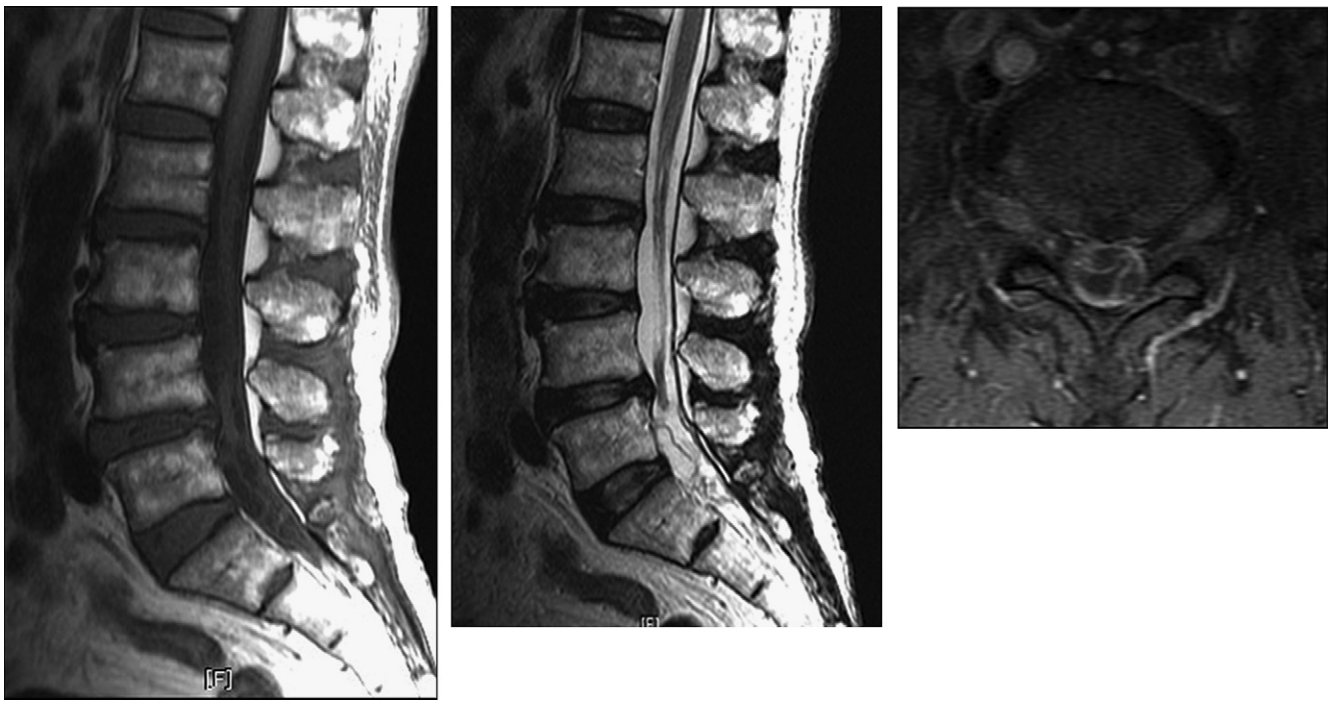

Fig. 1. (Left) Sagittal T1-weighted, (Middle) sagittal T2-weighted, and (Right) contrast-enhanced axial T1-weighted magnetic resonance images demonstrating a eccentric mass lesion compression of cauda equina at L5–S1 with diffuse scarring throughout subarachnoid space. High signal intensity on T2-weighted image and irregular peripheral enhancement on contrast-enhanced T1-weighted image noted.