

◆ Case Report

A Typical Low-Back Pain Caused by an Atypical Etiology

Atilla Ergin, M.D., Tansel Toker, M.D., Omer Yanarates, M.D., Ercan Kurt, M.D., and M. Erdal Guzeldemir, M.D.

Objective: Pain arising in the lumbar spine can have many etiologies, nearly 80% of which cannot be established with certainty. We present a very rare cause of back pain.

Case Report: A 54-year-old woman presented with a 2-month history of low-back pain and right-sided sciatica. Conventional analgesics, physiotherapy, and epidural steroid application had failed to provide relief. She had tenderness of the right sacroiliac joint. Diagnostic fluoroscopic-guided sacroiliac-joint injection with lidocaine did not produce symptomatic relief. Pelvic ultrasonography and magnetic resonance imaging showed septated multilocular hydatid cysts along the sciatic nerve. Surgical exploration noted multicystic lesions along the sciatic nerve woven to the nerve. Her low-back pain disappeared completely after the operation. She received oral albendazole for 6 months to prevent any recurrence of the disease and remains asymptomatic.

Conclusion: Hydatid cyst can be included in the differential diagnosis of lumbar back pain, especially in the endemic areas. *Reg Anesth Pain Med* 2007;32:89-92.

Key Words: Low-back pain, Hydatid cysts, Hydatidosis.

Hydatidosis, also known as echinococcosis, has been documented since the time of Hippocrates. Hydatidosis involves several parasitic diseases that are caused by the larval stages of 4 species of the cestode *Echinococcus*. These cestodes begin their life cycles in the intestines of definitive hosts, such as dogs, from which they are excreted in feces and subsequently ingested by cattle and sheep (and, rarely, humans), which serve as intermediate hosts. Once ingested, the organism penetrates the intestinal wall of its intermediate host and migrates through the host's circulatory system, eventually depositing into an organ and forming a cyst. When the intermediate host is eaten by a new definitive host, the cycle repeats. Hydatidosis has a characteristic geographic distribution with a high prevalence in sheep-raising and cattle-raising regions.^{1,2} It is rarely reported in developed countries, except when it is imported from endemic areas.

In humans, *Echinococcus granulosus* most commonly deposits itself in the liver (55% to 70%), lungs (18% to 35%), or uncommon locations such as the brain, bones, muscles, adrenals, and the spleen (approximately 10%).³⁻⁵ Hydatid cysts present with many different clinical symptoms that generally result from enlarging cysts. Cyst leakage or rupture carries the potential risk of triggering severe allergic reactions to parasite antigens. Diagnosis of a cyst on a peripheral nerve is very rare; symptoms are often absent and, in many cases, cysts are only discovered accidentally by imaging studies. This case report describes a rare instance of a hydatid cyst that caused severe and progressive low-back pain (LBP) with associated neurologic dysfunction.

Case Report

A 54-year-old woman presented with a 2-month history of LBP and pain radiating down her right sciatic nerve. The pain was associated with numbness and weakness in her right leg and foot. Primary-care practitioners concluded that her symptoms were caused by nerve-root irritation. Despite conservative treatment, she did not obtain relief from her symptoms.

From the Gulhane Military Medical Faculty, Department of Anesthesiology and Reanimation, Ankara, Turkey.

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Reprint requests: Atilla Ergin, M.D., GATA Medical Faculty, Department of Anaesthesiology and Reanimation, 06018 Etlik, Ankara, Turkey. E-mail: aergin@gata.edu.tr

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A physiatrist performed lumbar epidural steroid injection, but 2 weeks later, the severity of her pain had increased and new diminished sensation on the right L4 to L5 dermatomes was noted. Magnetic resonance imaging (MRI) study showed bulging of the L4-L5 intervertebral disc and that was felt not to be producing nerve-root pressure.

The patient was then sent to our pain clinic for consultation. The patient exhibited right paravertebral muscle spasm with tenderness over her right sacrum and sacroiliac joint. Lumbar spinal movements were painful; the pain radiated to her right buttock, posterolateral thigh, and calf and could be reproduced with sciatic-nerve stretching. Neurologic examination revealed 4/5 quadriceps weakness when, as well as decreased sensation in the right L4-L5 dermatomes. Her right ankle reflex was decreased. Anal reflex and anal sphincter tone were normal.

Diagnostic fluoroscopy by use of a 2-mL 2% lidocaine injection into the left anteroinferior sacroiliac joint did not relieve the symptoms. Pelvic ultrasonography (US) revealed septated multilocular hyperechogenic cysts situated in the pelvic inlet along the sciatic nerve. Pelvic MRI also revealed septated multilocular cysts in the presacral region (Fig 1). Ultrasound of the liver and spleen were normal. A Casoni test,⁶ used to diagnose hydatidosis, was negative, but because Casoni tests may yield false-negative results, an indirect hemagglutination (IHA) test⁷ was performed. The IHA test result was also negative. No indication of the primary source of the infestation by *E. granulosus* was evident after chest radiography and computerized tomography (CT) of the thorax, abdomen, and head.

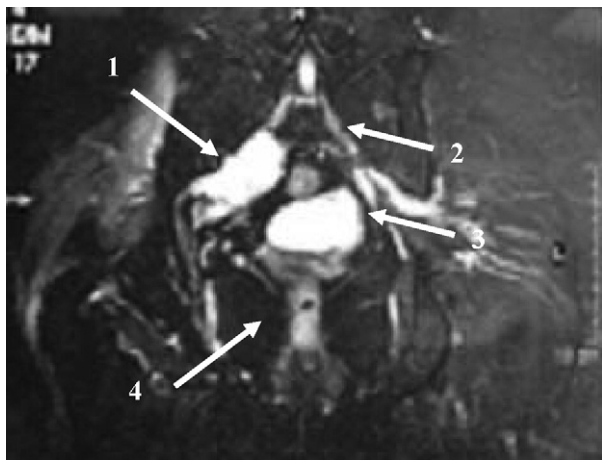


Fig 1. Right posterior fat sat-T2 weighted coronal MRI shows multilocular biseptated lesion along the sciatic nerve. (1) Multilocular, septated cystic hydatid; (2) sacral vertebrae; (3) rectum; (4) pelvic muscles.

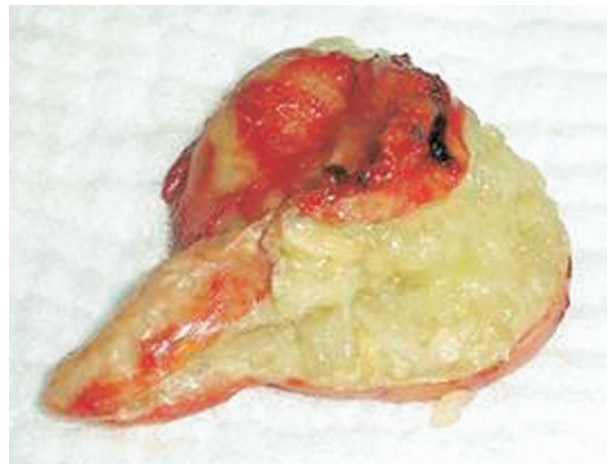


Fig 2. Exisitional hydatid cyst.

The patient underwent explorative surgery, during which surgeons found a multilocular lesion (Fig 2) intertwined with the sciatic nerve. The patient's LBP improved dramatically within 24 hours. She was given twice daily oral albendazole 200 mg for 6 months, an antiparasitic medication from the benzimidazole family to prevent disease recurrence. The patient is still asymptomatic at the time of this report.

Discussion

Hydatid disease is caused by infection with tapeworm larvae (metacestodes) from the genus *Echinococcus*. Within the genus, 4 species are recognized: *E. granulosus*, which causes cystic hydatid disease; *E. multilocularis*, which causes alveolar hydatid disease; and *E. vogelii* and *E. oligarthrus*, both of which cause polycystic hydatid disease. *E. granulosus* has at least 6 genetically distinct strains, 2 of which are involved with human infection. The sylvan strain propagates in wolves and wild ungulates in Northern Alaska, Canada, Scandinavia, and Eurasia. The pastoral strain propagates in dogs and domestic ungulates throughout the world. Most human infections are caused by the pastoral strain. Endemic regions of human cystic hydatid disease include the southern parts of South America (Uruguay and Argentina), the Mediterranean region, the Middle East, many parts of Africa (especially Kenya), Southern and Central Russia, Central Asia, and many regions in China (especially the Xinjiang Province). The majority of reported patients in Austria, Germany, and Switzerland are immigrants from the Mediterranean region. In the United States, most infections are seen in immigrants from endemic areas, but transmission has been noted in Alaska, California, Utah, Arizona, and New Mexico.

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