Paralysis Resulting from Calcific Discitis with Acute Herniation

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To the Editor: Calcific discitis is a self-limiting cervical disc disease usually seen in children and uncommon in adults.[1] It can typically be cured by conservative treatment.[2] In this article, we reported a case of paralysis caused by thoracolumbar calcific discitis, with acute herniation.

A 52-year-old male patient presented with a 4-day history of upper lumbar pain, with radiating pain over the medial aspect of both thighs. His visual analog scale (VAS) pain score was 9 out of 10 points. He exhibited reduced lower-limb strength and weakness while walking. These symptoms were reportedly more severe in the morning. Four hours before presentation, when he stood and bent over, he reportedly experienced severe pain in his waist, with numbness and burning noted in both lower limbs. Thirty minutes later, all adverse lower-limb symptoms had completely disappeared, and he was unable to move his lower limbs or urinate.

The patient had no trauma history. His past medical history was significant for untreated hypertension. He had no history of fever, liver disease, and did not reside with live animals.

Physical examination showed that both needling and general touch sensations were absent from the perineum and anal region. He reported experiencing burning pain when his thighs were touched, bilaterally. He reported no feeling below knee level. Lower-limb muscle strength was graded "0" bilaterally. The cremasteric reflex, anal reflex, knee tendon reflex, and Achilles tendon reflex were absent. We were able to induce the spherical cornea reflex. The patient also exhibited new-onset dysuria. Radiological examinations are shown in Figure 1a-1e. We noted increased white blood cell counts. Lumbar puncture was not performed.

Admission diagnoses were "acute spinal cord injury, American Spinal Injury Association (ASIA) A, and complete paraplegia." A space-occupying lesion in the thoracic spine required investigation. Additional diagnoses included lumbar spinal stenosis and hypertension.

Four hours following onset of symptoms, we administered dexamethasone 20 mg and mannitol 250 ml which unfortunately failed to control his symptoms. Subsequently, we arranged emergency surgery which was performed 8 h later. The surgical procedures involved T10, T11, L1, L2, and L3 laminectomy with pedicle screw fixation and intertransverse fusion [Figure 1f-1h].

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Quick Response Code:

Website: www.cmj.org

DOI: 10.4103/0366-6999.217088

We observed a great number of white, viscous, sediment-like tissue behind the T12 vertebral body and in front of the dura mater. Biopsy specimens were obtained and subjected to histopathological examination.

The specimen was acid-fast staining negative and negative tuberculosis antibody test. Specimen pathology (spinal gray matter) showed transparent cartilage and fibrous tissue with degeneration, necrosis, calcium deposition, and calcification.

Postoperatively, the patient's erythrocyte sedimentation rate (ESR) was increased, while C-reaction protein was normal. By 14-day postsurgery, the patient partially recovered sensation to his ankles and thighs, bilaterally. Bilateral quadriceps and iliopsoas muscle strength were strength Level 1 while the bilateral tibialis anterior muscles, extensor digitorum, extensor hallucis muscle, and triceps were Level 0. Tendon reflexes were unchanged from admission. The patient was able to defecate but still required catheterization (ASIA B).

Follow-up after 3.5 years showed that bilateral quadriceps and iliopsoas muscle strength were Level 3. Bilateral tibialis anterior, extensor digitorum, extensor hallucis, and triceps muscle strength were Level 2 (ASIA C).

Calcific discitis is associated with inflammation and trauma[1] and is more common in children younger than 6–10 years of age. Symptoms usually arise from the lower neck and include pain, stiffness, limited range of motion, and torticollis. Calcific discitis may be associated with fever, leukocytosis, and increased ESR.

There are few reports of calcific discitis in adults, where thoracic disc involvement is more common. Here, the main symptom is back pain that is relatively minor and generally not associated with damage to the spinal cord or nerves. The condition typically responds favorably to conservative treatments including administration of oral nonsteroidal anti-inflammatory drugs and

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Received: 06-06-2017 **Edited by:** Yuan-Yuan Ji
How to cite this article: Hu SB, Niu LS, Zheng WB, Sun T, Sun MY. Paralysis Resulting from Calcific Discitis with Acute Herniation. Chin Med J 2017;130:2643-4.

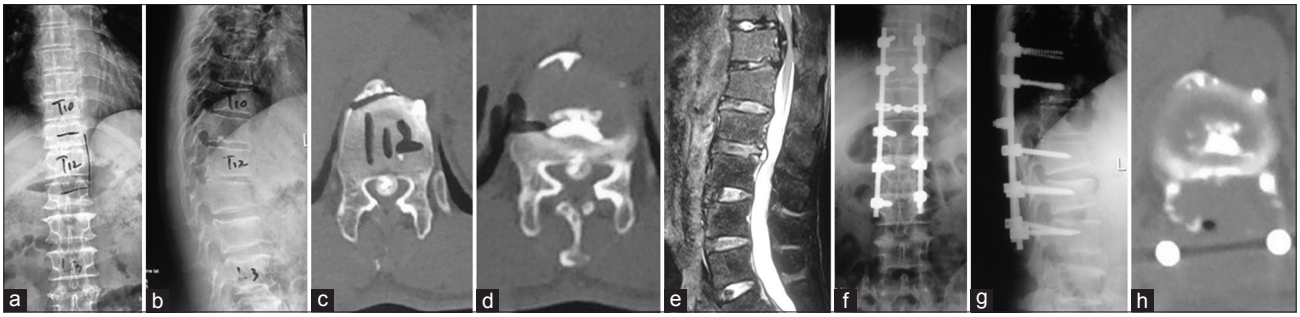

Figure 1: X-ray with narrowing of the T12/L1 intervertebral space; The upper and lower end plates of T11/12 and T12/L1 intervertebral spaces have uneven density; bone hyperplasia along several vertebral margins (a and b). On computed tomography, the horizontal view shows a high-density mass invading approximately one-half of the spinal canal, with severe spinal cord compression (c and d). On magnetic resonance imaging, narrowing of T11/T12 and T12/L1 intervertebral spaces; mixed signal shadow of the posterior T12 vertebral body. Degeneration and herniation of L2/3 with spinal stenosis at the same level (e). Repeat X-ray after surgery:(f and g) both show acceptable screw position; postoperative computed tomography and (h) shows no residual spinal canal lesion.

activity restrictions. These approaches typically relieve the pain, and the calcification can disappear in a matter of weeks to months.[2] For cases of severe spinal cord compression that result in significant neurological impairment, or in cases where conservative treatment fails, surgical decompression is necessary.[3]

In this case report, the patient complained of severe (VAS = 9) back pain and presented with rapidly progressing symptoms of spinal cord injury that eventually led to paraplegia. Spinal cord imaging revealed severe compression, which led to the decision to perform emergent open surgical decompression.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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