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Spondylodiscitis and epidural abscess due to *Candida albicans*

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Abstract A 32-year-old woman, addicted to heroin, presented with a dorsal spondylodiscitis due to *Candida albicans* associated with epidural abscess. Antimycotic treatment was successful, and no neurosurgical decompression was necessary. To our knowledge, this is the first case of documented epidural involvement in candidal spondylodiscitis. The diagnosis of candidal spondylodiscitis should be considered in cases of para- or tetraplegia occurring in intravenous drug abusers.

Key words Spondylodiscitis · Epidural abscess · *Candida albicans*

Case report

Candidal spondylodiscitis is a rare condition, with only 52 proven cases reported in the literature to date [2]. We describe a case of spondylodiscitis caused by *Candida albicans* and associated with epidural abscess.

A 32-year-old female intravenous heroin addict was admitted to the hospital because of sudden flaccid paraplegia. Her medical history was relevant for an asymptomatic HIV infection of 10 years' duration. The patient had been well until 1 month earlier, when she began to complain of low back pain. On the night of the admission, her backpain worsened and she became suddenly paraparetic. On admission, 3 h after the first neurological symptoms, physical examination revealed a flaccid paraplegia, a sensory level at T10-T12 and urinary retention. She was afebrile. The peripheral white blood cell count was 16,600 leukocytes/mm³ (14,000 polymorphonuclear/mm³). The CD4 lymphocyte cell count was 620/mm³, and the erythrocyte sedimentation rate was 34 mm/h.

Magnetic resonance imaging (MRI) of the dorsal spine after administration of gadolinium showed a T7-T8 spondylodiscitis associated with an anterior T6-T9 epidural extension (Fig. 1). Because of the anterior location of the epidural abscess and the high risk of postoperative instability, two neurosurgical consultants recommended medical management alone. Since *Staphylococcus aureus* and *Mycobacterium tuberculosis* are the most common infective organisms found in spondylodiscitis [2], a treatment with intravenous oxacillin (12 g/day), pefloxacin (800 mg/day) and antituberculous quadritherapy was started, associated with intravenous steroids (methylprednisolone 500 mg/day for 5 days). Analysis of the cerebro-spinal fluid (CSF) showed the following values: leukocyte count 22/mm³ with 75% lymphocytes and 25% polymorphonuclear leukocytes; protein 2.8 g/l; glucose 3 mmol/l. Gram stain and culture of the CSF were negative. Biopsy under computed tomographic (CT) scan of the T7 vertebral body was performed, and *Candida albicans* was isolated. Ophthalmoscopic examinations showed bilateral retinal lesions, highly suggestive of *Candida* infections. Sonography of the abdomen revealed a splenic

Fig. 1 Magnetic resonance image of the dorsal spine of a 32-year-old female intravenous drug abuser shows a T7-T8 spondylodiscitis associated with an anterior epidural abscess

defect. Cardiac examination and echography were normal. We concluded that our patient was suffering from disseminated candidosis following intravenous injections, with vertebral, epidural, splenic and ocular localizations.

Antifungal treatment with intravenous amphotericin B (60 mg/day) and flucytosin (10 g/day) was started 2 days after the onset of paraplegia, and continued for 24 days. Maintenance therapy consisting of 800 mg/day of oral fluconazol and 2.5 g/day of flucytosin was given for 3 months. The neurological condition of the patient improved progressively. At a follow-up visit, 11 months after admission, she was able to walk unaided. A few days after her admission, her husband was admitted to the same hospital for disseminated candidosis with ocular localization and arthritis. He was also an intravenous drug abuser infected with HIV, and they shared the same needles for intravenous injection. Enzymatic analysis demonstrated that the strains of *Candida albicans* isolated in both patients were the same.

Discussion

Neurological symptoms in cases of spondylodiscitis may be the consequence of spinal epidural abscess, vertebral collapse, spinal cord infarct or meningitis [4]. Neurological deterioration occurs in 21% of patients with candidal spondylodiscitis [2], and epidural involvement has, to our knowledge, never been documented. This suggests that spinal cord lesions in candidal spondylodiscitis are caused by vertebral collapse and/or spinal cord infarct rather than by associated epidural abscess. Cases of candidal epidural abscess may have been underdiagnosed, since most previous cases were documented by CT and not by MRI [1, 2]. As no vertebral collapse occurred in our patient, the neurological deterioration was probably caused by the epidural abscess, either by direct compression of the spinal cord or by compression of its anterior arterial blood supply.

Although candida species are a rare cause of nontuberculous spondylodiscitis, 23% of the cases described in the literature occurred in intravenous drug addicts [2]. Apyrexia, as in our case report, does not rule out the diagnosis of candidal spondylodiscitis, since fever is only present in 43% of patients [2]. Thus, beside the well-known cases of spondylodiscitis and epidural abscesses caused by *Staphylococcus aureus* and *Pseudomonas aeruginosa* in heroin addicts [3], it is important to keep in mind the possible occurrence of candidal spondylodiscitis in such patients.

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