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LUMBAR SPINAL ASPERGILLUS ABSCESS IN AN IMMUNOCOMPETENT PATIENT

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ABSTRACT

Only a few species of Aspergillus cause infections in humans. But, these infections lead highly mortal abscesses by located in the central nervous system and spine. It is accentuated frequently in the literature that these infections were seen in immunocompromised patients. The aim of this case report is that spinal involvement of Aspergillus should be kept in mind even in immunocompetent patients initially considered as tuberculosis by radiology. Mortality rate may be reduced by surgical decompression and rigorous antifungal therapy.

Key words: Aspergillus, Spinal abscess, Spinal tumor, Surgery

Level of evidence: Case report, Level IV.

INTRODUCTION

Aspergillus species is a widely present fungus existing in soil and decaying plants [(1)]. Vertebral involvement in aspergillosis is quite rare, and carries a high mortality rate for untreated cases [(2)]. Spinal epidural Aspergillus abscesses occur mostly in immunocompromised patients [(3)]. This rare abscess causes rapidly developing compressive symptoms. Most of the previous reports in the literature, spinal epidural Aspergillus abscess developed in immunocompromised patients. The aim of this case report is to present quite rare spinal extradural Aspergillus abscess and to draw attention that spinal Aspergillus abscess may cause compressive symptoms in immunocompetent patients also.

CASE REPORT

A 63-year-old male was admitted in December 2015 with complaining of back pain radiating to both legs more severe in the right one for a month. Numbness and burning pain in right leg became intensified, and a rapidly progressive right foot weakness supervened in the last week. Walking distance of the patient was getting decreased to 10 meters because of severe pain. Back pain was becoming more severe by bending forward. Neurological examination revealed slight positivity in the right straight leg rising, hyperalgesia in the right L3 dermatome and the right side hyperactive deep tendon reflexes. Mild tenderness by touching was detected on the L2-3 level on the right side of the backbone. There was no history of trauma or strain. An MRI revealed a low signal intracanalicular, 1x1x1,5 cm., round shaped, mass lesion at the right lower corner of the L2 vertebra on the sagittal T2W sequence. The lesion is seen as compressing the techal sac on the axial sequence (Fig. 1 A,B).

The patient was operated in prone position under operating microscope. Grayish white, approximately 1x1x1,5 cm., caudally located mass at the right L2-3 level was resected with its capsule. Techal sac was decompressed. Histopathologic examination disclosed basophilic material showed calcific degeneration with fungal hyphae and their dichotomous branching diagnostic for Aspergillus (Fig. 2).

After this diagnosis patient was investigated for immune system disorders such as AIDS, sexually transmitted disease, and was checked up on using immunsuppresor drugs, steroids etc. No finding supported immune deficiency or compromising was revealed.

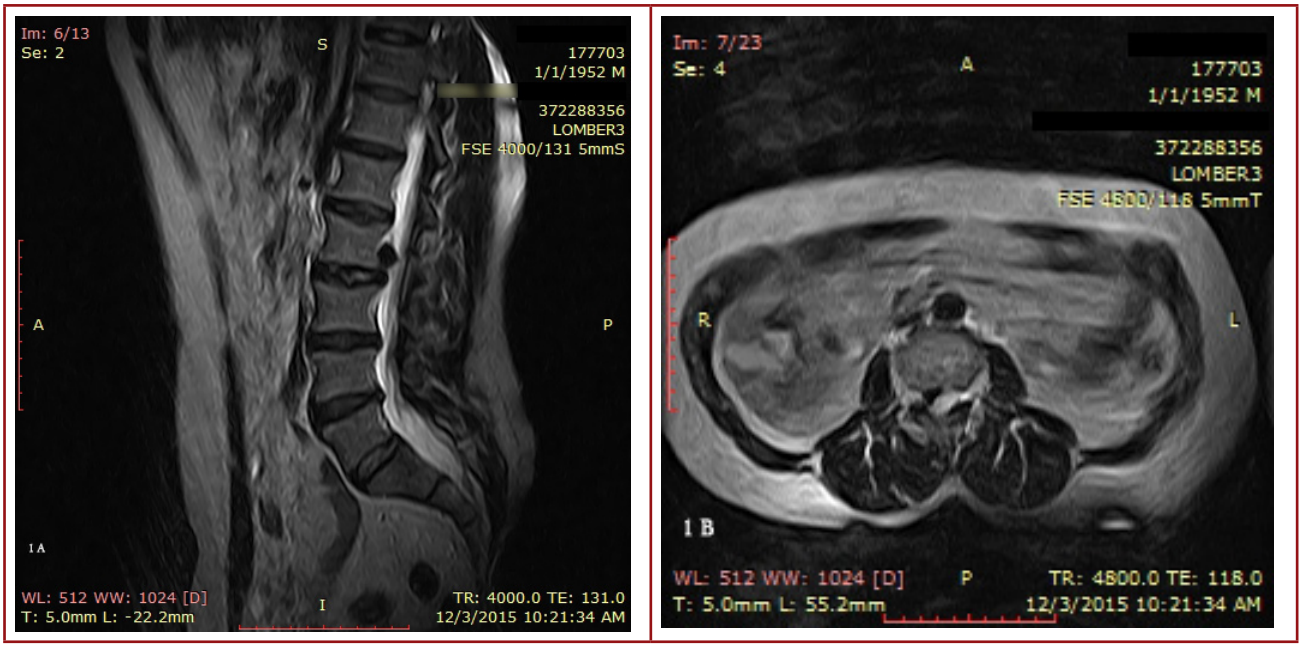

Figure-1. Sagittal **(A)** and axial **(B)** T2W MRI's shows intracanalicular low signal 1x1x1,5 cm. mass lesion compressing techal sac on lower right corner of the L2 vertebra.

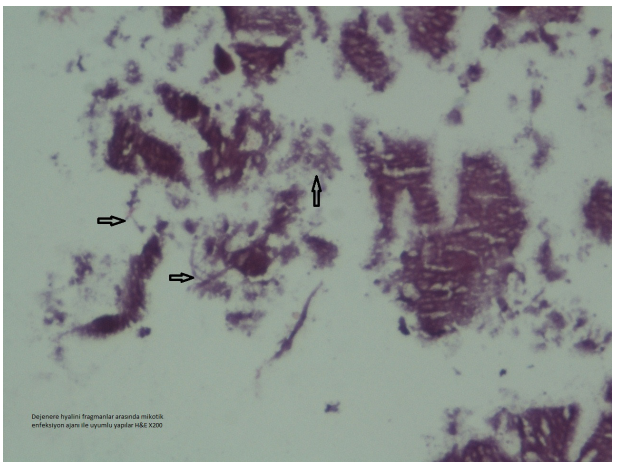

Figure-2. Photomicrograph (H&Ex250) revealed mycotic agents in degenerated hyaline field, hypha and conidia (arrows).

DISCUSSION

Aspergillus species can be found widely everywhere, but their invasive infections are quite rare with incidence of 12/1 000 000 population per year [3], and occur in immunocompromised patients frequently [1,2]. Only a few are pathogenic among approximately 300 known species [2].

A. flavus and fumigatus are the most widely species causing clinical diseases [4]. Its disseminated infection associated with a high mortality rate despite treatment [5]. New and safe treatment modalities cannot change this high mortality. Voriconazole treatment when adding surgery gives encouraging results for CNS Aspergillosis [6]. Vertebral or spinal aspergillosis may develop by hematogenous spread or by direct extension [7]. Radiologically differentiation of spinal Aspergillosis from tuberculosis is very difficult [1]. However disc space collapse is seen in tuberculosis frequently, whereas aspergillosis lesion tends to grow circumferentially and destroys all the surrounding vertebral structures [8].

Spinal aspergillosis develops as an infective vasculopathy-mediated sepsis or hemorrhage causing osteomyelitis evolving spinal abscess.

Therapy of spinal Aspergillus abscess must be multimodal. Drainage of abscess and appropriate antifungal medication are the backbone of therapy. Surgery provides decompression of neural structures and sample for histopathologic examination [9]. Mortality and morbidity are 95 % roughly despite the best treatment [10].

This presented case has some unique characteristics. First of all the patient did not have any immunocompromised condition. Secondly, his abscess located in quite rare region on the spine. In previously reported cases, Aspergillus abscess caused myelopathy, because of their location in cervico-thoracic region. In presented cases location is L2-3 disc space, so abscess caused radiculopathy. Thirdly, after operation and aggressive antifungal therapy, the patient improved well. As a conclusion, spinal involvement of Aspergillus should be kept in mind even in immunocompetent patients initially considered as tuberculosis by radiology.

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