

Spondylodiscitis Due To Histoplasma Duboisii: Report Of One Case And Review Of Literature

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Citation

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Abstract

We report one case of African histoplasmosis caused by *Histoplasma Duboisii* located in the spine on a 57 year old patient. Clinical signs consisted of dorsal lumbosacral syndrome and paraparesis.

Radiography and computed scan revealed spondylodiscitis, whereas Magnetic Resonance Imaging showed destructive lesion in the L5-S1 intervertebral disc and a paravertebral abscess. Tc99m-HMDP bone scintigraphy showed intensely increased uptake in the lumbo-sacral region. The diagnosis was confirmed by mycological and pathological examinations of biopsy specimen which revealed *Histoplasma Duboisii* fungus. Medical treatment after surgical repair consisted in Ketoconazole with positive results after 8 months.

This localisation is rare. It raises diagnosis problems with tuberculosis spondylodiscitis because of their radio-clinical resemblance.

INTRODUCTION

Histoplasma is a mycotic infection due to dimorphic mushrooms. There are two forms described by Vanbreuseghem in 1952 using morphological and clinical criteria. The American histoplasmosis with small yeast due to "*Histoplasma Capsulatum*" and the African form due to "*Histoplasma Duboisii*" which etiologic agent grows as a large yeast within giant cells. The entrance ways are multiple, but transcutaneous way on injured skin and digestive tract are better known (1). Nodular and ulcerative cutaneous, lymphatic nodules are the main localisations of the HD (2).

We report an original and rare case of spondylodiscitis due to HD explored in the Nuclear Medicine Department of Rabat.

CASE REPORT

A 57 year old man followed for diabetes since 14 years was hospitalized for abrupt pain in the lumbo-sacral region with progressive bilateral lower limb weakness,

On admission, his general condition was poor. Physical examination revealed bilateral lower leg tenderness with inflammatory signs in the lumbosacral region.

Blood analysis at admission showed an hypochromic

microcytic anemia and an accelerated sedimentation test.

Radiography and computed tomography (CT) revealed spondylodiscitis on the level of L5-S1 vertebrae with a liquid collection at the expense of soft parts. Magnetic resonance imaging (MRI) showed a heterogeneous irregular destructive lesion of the L5-S1 intervertebral disc extended to epidural space with bulging contours (Fig.1).

Figure 1

Figure 1: T1 lumbosacral magnetic resonance image shows a heterogeneous irregular destructive lesion of the L5-S1 intervertebral disk (arrow). The lesion extends to epidural space with bulging contours.



Tc99m-HMDP whole body scintigraphy reveals intensely increased uptake in the lumbosacral spine extended to sacro-iliac junction prevailing in the left (Fig2).

Figure 2

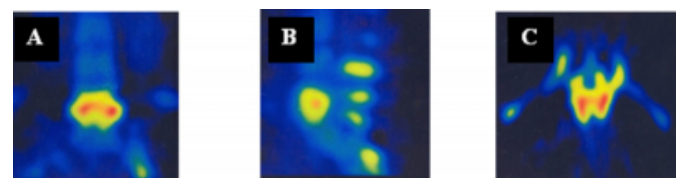
Figure 2: Tc99m-HMDP whole body scintigraphy reveals intensely increased uptake in the lumbosacral spine extends to sacroiliac junction without any remote lesion.



Tomoscintigraphy shows intensely uptake of the L4-L5-S1 extended to the sacroiliac junction and the left iliaque peak (Fig3).

Figure 3

Figure 3: Tomoscintigraphy slices (A : Frontal, B : Sagittal, C : Transverse) reveal intensely uptake of the L5-S1 extended to the sacro-iliac junctions.



Biopsy of the sacrum was guided by CT AND histological examination of the bone specimen reveals granulomous tissue with a giant fungus (74 µm) evoking HD fungus.

Posterior spinal decompression with a drainage of abscess was performed. Then the patient was treated with Ketoconazole (800 mg per day). His symptoms were

markedly reduced 8 months later without any hematologic or liver complications (normal renal, hepatic and hematologic assessment).

DISCUSSION

The histoplasmosis represents an opportunist mycotic infection, particularly during the immunodeficiency period like is the case. Our patient had a negative HIV serology but diabetes can explain his immunodeficiency.

In tuberculosis endemic regions like in our country the diagnosis of African histoplasmosis can be confused with tuberculosis. In our observation, histological and mycological studies were determinant as well as the good clinical response after antimycotic treatment.

The diagnosis of spondylodiscitis is made thanks to the modern imaging methods. Computed tomography and Magnetic Resonance Imaging are useful because they may provide detailed images of bone.

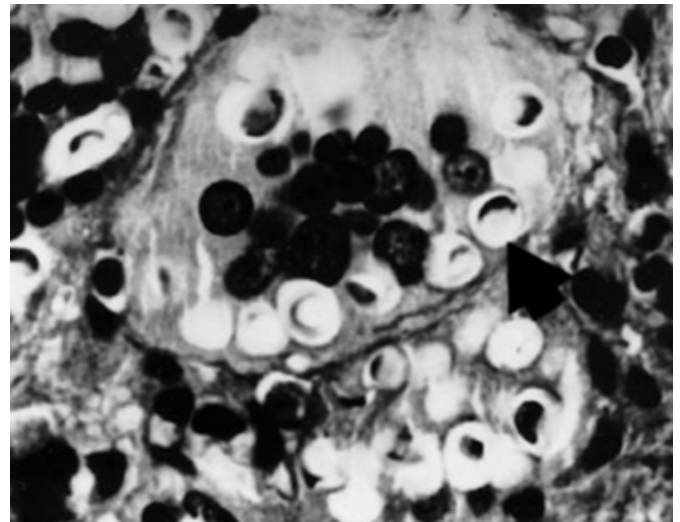
Tc99m-HMDP bone scintigraphy is useful for detecting exactly the expanse of lesions and also, thanks to the whole body scan, the existence of others remote anomalies. Beside this, it is enough sensitive to detect bone destruction in an early phase (3,4). That is way it is considered as a very useful mean to orientate the surgery when this last is recommended.

The mycologic diagnosis can be established directly by insulation of the fungus. The culture is possible on the Sabouraud environment to reveal the mycelien form (5,6). Faster means to reveal the fungus exist thanks to current progress of molecular biology: Immunofluorescence, research of antigene by ELISA and detection of DNA and RNA using PCR.

Histopathological examination of the biopsy allows the diagnosis in 87% of the cases (7), it was the case in our observation. In fact, typical histological aspect is an inflammatory phenomenon with a large numbers of giant cells (up to 80µm) (Fig4).

Figure 4

Figure 4: Histological examination showing *Histoplasma duboisii* in giant cell.



These giant cells are plasmocytes containing many characteristic yeasts witch colouring with mucicarmen gives in polarized light, an aspect in cross of maltin (8).

CONCLUSION

Spondylodiscitis due to *Histoplasma Duboisii* is rare. It raises diagnosis problems with some infection pathologies, especially tuberculosis because their radio-clinical resemblance, but the mycological and histological examination is determinant to establish the right diagnosis. Modern imaging methods are useful to detail the bone lesions (CT and RMI) and to precise the extended of lesion through the whole body thanks to the Tc99m-HMDP bone scintigraphy. The prognosis is markedly improved with the introduction of a new antimycotic treatment like Ketoconazole.

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