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Nocardia Meningitis in A Newly Diagnosed HIV Positive Patient.

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ABSTRACT

Nocardiosis is an opportunistic infection that affects the lungs most commonly. However, CNS manifestations form the major chunk of the extra-pulmonary cases. Since the infection can lead to serious and irreversible morbidity and mortality, early diagnosis and treatment are of prime importance. This case report highlights the typical presentation of Nocardiosis in an immunosuppressed patient.

Keywords: Nocardiosis, Extrapulmonary, Brain, Bacterial meningitis

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INTRODUCTION

Nocardiosis is an infection seen most commonly as an opportunistic one in the immunosuppressed population. It is caused by the gram-positive bacillus, *Nocardia*. Several species have been identified, including *N. asteroides, N. nova, N. abscessus*, etc. It is identified on microscopy by its hyphae. Also, acid-fast bacilli (AFB) staining techniques are likely to reveal the presence of this organism [1].

The risk groups for nocardiosis comprise HIV-infected patients, individuals on long-term corticosteroid therapy, patients with malignancies, etc. The most common presentation is the pulmonary form, simply known as pulmonary nocardiosis. However, extra-pulmonary forms may also arise. These include CNS, skin, eyes, liver, spleen, etc [1]. The authors report a case of meningitis due to Nocardia infection, which was seen in a newly-diagnosed HIV-infected individual.

Case Report

A 42-year-old male presented with recurrent episodes of fever, diarrhea and significant weight loss for the past 6 months. Physical examination revealed oral candidiasis, palpable right jugulo-digastric lymph node and hepatomegaly. Routine blood investigations were ordered. All results were within normal limits, except for ELISA (for HIV-1), which turned out to be positive (done twice for confirmation). CD4 count was 17 cells/µl. HAART (Zidovudine, Lamivudine, Nevirapine) was initiated.

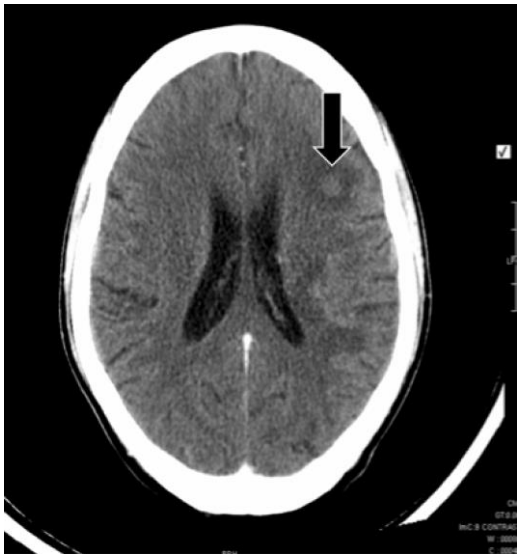

Figure 1: CT brain showing a parenchymal lesion

On the 5th day following hospitalization, the patient developed headache and signs of meningeal irritation. A CT scan of brain was performed, which revealed a parenchymal lesion (as shown in Figure 1). A presumptive diagnosis of tuberculoma or toxoplasmosis was considered. Mantoux skin test (for TB) was negative. AFB staining was negative. Lumbar puncture was done. CSF findings were as follows: Protein – 121 mg/dl, Glucose - 40 mg/dl, ADA - 8U/L, WBCs - 620/mm^3 (N-82%, L-15%, E-3%). Also, PCR for *M. tuberculosis* was negative. India Ink staining for Cryptococcus was also negative. TPHA, VDRL, Toxoplasma IgG, HBsAg, Anti HCV tests were negative. CSF was sterile in the initial 4 days of culture; however on the 5th day, *Nocardia* species was isolated. Oral Cotrimoxazole was added to the existing antibiotic (Ceftriaxone) regimen. The patient improved symptomatically over the next 2 weeks, and was discharged on the following: Cotrimoxazole, HAART, Azithromycin and Phenytoin.

On follow up after 6 weeks, he was symptom-free and had gained 3.5 kg, and he was continued on the same therapy. At 3 months, he had a weight gain of about 10 kg; CD4 count was 100 cells/µl. Till 9 months, the patient was on regular therapy and had gained 17 kg, following which he was lost to follow up.

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DISCUSSION

Diagnosis of nocardiosis may be challenging due to the lack of specific pathognomonic clinical or radiological features. Microscopy may reveal hyphae, and culture invariably shows growth (which may be confused with TB bacillus). Also, AFB staining can be done to identify *Nocardia*, but *Mycobacterium tuberculosis* turns out to be a differential in the diagnostic panel [2]. However, in our case, AFB turned out to be negative, which probably shows that *Nocardia* may not always be positive for AFB staining. As mentioned earlier, the infection is very common in the immunosuppressed [1-3], as was seen in our case as well.

The treatment of choice for Nocardiosis is initiation of cotrimoxazole, which was done in our scenario. Other options include amikacin, imipenem, cephalosporins and linezolid [3]. Recently, there have been reports of resistance to the older therapeutic agents [4].

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