

Neurosarcoidosis: A Rare Cause of the Acute Confusion and Agitation in Young Patient

Mai Omer Ibrahim* and Einas Khalifa*

Department of Acute Medicine, Nottingham University Hospitals, NHS Trust, Queens Medical Centre Campus, Derby Road, Nottingham, United Kingdom

*Corresponding author:
Ibrahim MO and Khalifa E

✉ maiiowsh87@hotmail.com,
einaskhlaifa@gmail.com

Department of Acute Medicine, Nottingham University Hospitals, NHS Trust, Queens Medical Centre Campus, Derby Road, Nottingham, United Kingdom.

Tel: +07951861477

Citation: Ibrahim MO, Khalifa E (2021) Neurosarcoidosis: A Rare Cause of the Acute Confusion and Agitation in Young Patient. J Neurol Neurosci Vol.12 No.5:370

Abstract

A young 27-year-old healthy Nigerian origin man presented with an acute confusion and agitation. His medical history didn't show any trauma, fever or weakness, he lives in UK with no contact with TB patient. He had a history of inflammatory arthritis. All his investigations were normal, His CSF examination showed protein cells. In addition, he had an EEG which was revealed Bi frontal dysfunction with no ictal patterns. His imaging, the MRI/MRA brain showed thin nodular leptomeningeal inflammatory disease and isolated left pontine micro haemorrhage consistent with Neurosarcoidosis and no features of infarction or vasculitis. He was commenced on high dose of steroids while he was in acute medical department and continued for five days. He was improved dramatically on subsequent days and discharged in a good condition.

Neurosarcoidosis is very rare disease that affects 5% of all patients and it will be fatal if not treated. Nonetheless, provided with expert care.

Keywords: Confusion; CNS infections; Neurosarcoidosis

Received: December 05, 2020; **Accepted:** May 03, 2021; **Published:** May 10, 2021

Introduction

Neurosarcoidosis especially Leptomeningitis: the inner lining of the brain becomes inflamed and the inflammation speeds quickly into the brain which itself swells up. Most patients develop headache, drowsiness, slowness of thinking and then other features such as weakness or numbness, balance, visual and hearing problems. The MRI scan is always abnormal, and the spinal fluid shows inflammatory cells. Treatment is with a high dose of steroids, suppression of the immune system with chemotherapy, and immunotherapy drugs such as an infliximab. Treatment is needed for at least 5 years within a multidisciplinary team [1].

Case Report

The case is about a young 27-year-old healthy Nigerian origin man who presented with an acute confusion and agitation. His medical history didn't show any trauma, fever or weakness, he lives in UK with no contact with TB patient. He had a history of inflammatory arthritis. All his investigations were normal, WBC- $11 \times 10^9/L$, CRP 2.7 mg/L, renal and liver function was normal, HIV was negative, Cryptococcal antigen not detected and drug screen also was negative. His CSF examination showed protein cells [2].

In addition, he had an EEG which was revealed Bi frontal dysfunction with no ictal patterns. His imaging, the MRI/MRA brain

in **Figure 1** showed thin nodular leptomeningeal inflammatory disease and isolated left pontine micro haemorrhage consistent with Neurosarcoidosis and no features of infarction or vasculitis. He was commenced on high dose of steroids while he was in acute medical department and continued for five days. He was improved dramatically on subsequent days and discharged in a good condition.

Discussion

Neurosarcoidosis is very rare disease that affects 5% of all patients and it will be fatal if not treated. Nonetheless, he is provided with expert care. The disease is straightforward to treat. Only minority of patients suffer lasting neurological impairments.

What is your differential diagnosis?

- CNS infections (HIV, TB malaria Meningitis (viral/bacterial))
- Drugs
- Vasculitis
- Brain tumour
- Neurosarcoidosis

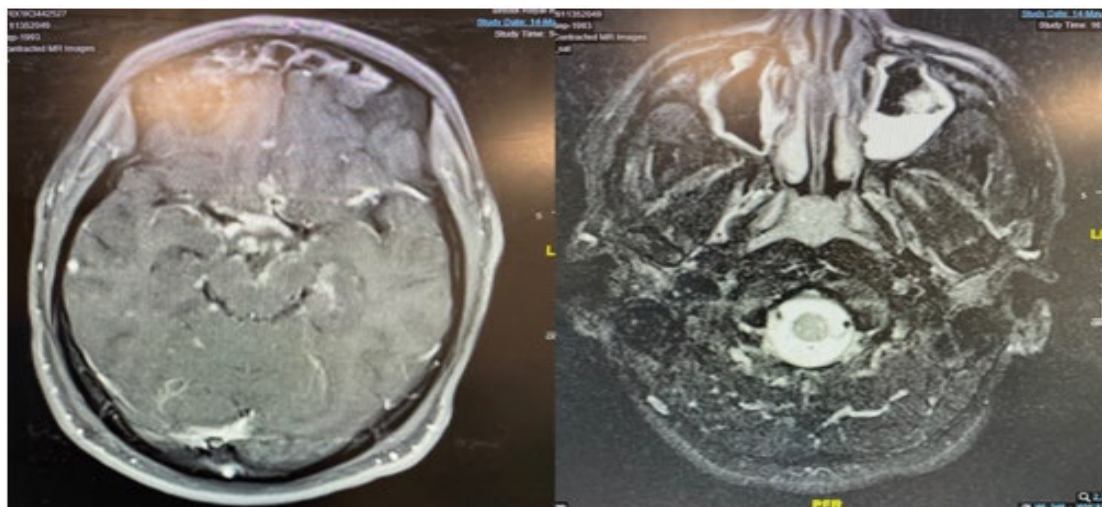


Figure 1 MRI /MRA brain imaging.

Given the patient's presentation, the differential diagnosis was wide. Clinically the presence of agitation and confusion in young adult with background history of arthritis and the fact that the patient is from Nigerian origin raised the possibility of TB related CNS infections/vasculitis, the absence of fever makes meningitis less likely.

What abnormal features are shown on the images?

His imaging, the MRI/MRA brain in **Figure 1** showed thin nodular leptomeningeal inflammatory disease and isolated left pontine micro haemorrhage consistent with Neurosarcoidosis and no features of infarction or vasculitis

What would be your ongoing management plan?

He was commenced on high dose of steroids while he was in acute medical department and continued for five days.

References

1 Stern BJ, King Jr TE (2012) Neurologic sarcoidosis. Up-To-Date. Michael Aminoff (Ed.), University of California, San Francisco, USA.

Conclusion

The disease is straightforward to treat. Only minority of patients suffer lasting neurological impairments. Neurosarcoidosis especially Leptomenigitis: the inner lining of the brain becomes inflamed and the inflammation spreads quickly into the brain which itself swells up. Most patients develop headache, drowsiness, slowness of thinking and then other features such as weakness or numbness, balance, visual and hearing problems. The MRI scan is always abnormal, and the spinal fluid shows inflammatory cells.

Treatment is with a high dose of steroids, suppression of the immune system with chemotherapy, and immunotherapy drugs such as an infliximab. Treatment is needed for at least 5 years within a multidisciplinary team. Neurosarcoidosis is very rare type of sarcoidosis but it is straightforward to treat with expert care.

2 Voortman M, Drent M, Baughman RP (2019) Management of neurosarcoidosis: A clinical challenge. *Curr Opin Neurol* 32: 475.