

Introduction

- Neuro-melioidosis, is caused by *Burkholderia pseudomallei*, a pathogen thriving in soil and freshwater surfaces in the tropical and subtropical regions (1). Often rare but fatal (2), high clinical suspicion is warranted in dealing with these cases.
- We present a case of a 69-year-old immunocompetent Chinese male who presented with fever and headache, who is later diagnosed to have neuro-melioidosis based on serology and response to empiric therapy.

Case Presentation

- 69-year-old Delivery driver
- Presenting complaints**
 - Fever, occipital headache, myalgia
- On Examination**
 - No signs of meningism
 - No neurologic deficits
 - No localizing signs
- Initial investigations**
 - White blood cells up to $35.4 \times 10^9/L$
 - C-reactive protein up to 285.4 mg/L
 - Ferritin up to 1,162ug/L
 - Multiple blood cultures no bacterial growth

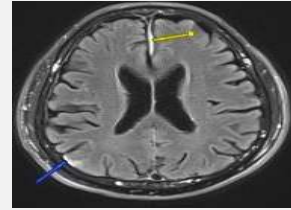
Further History

- Married with grandchildren
- Works as delivery driver for cables, occasionally ferries workers – no sick contacts
- Previously worked in construction – several odd jobs depending on job requirements
 - E.g. Entering manholes, driving excavator
 - In construction line for 20 years**

Progress

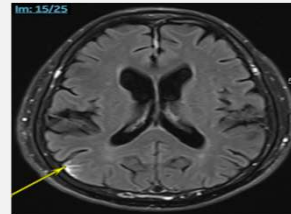


Results



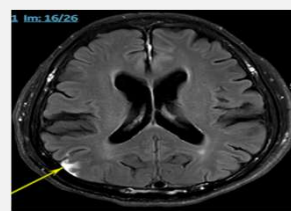
MRI brain – September 2024

Area of leptomeningeal enhancement in the right posterior temporal region is noted. There is dural enhancement along the falx.



MRI Brain – November 2024

The previously noted dural enhancement along the falx has resolved. No new intracranial findings.



MRI Brain 14/5/2025

Stable leptomeningeal enhancement in the right posterior temporal region and mild dural enhancement along the anterior falx. No new abnormal parenchymal or meningeal enhancement. No acute intracranial hemorrhage, infarct or space occupying lesion.

CSF studies:

Nucleated cells 2
CSF culture negative
CSF AFB smear negative, AFB culture negative
CSF Fungal culture pending
CSF HSV PCR negative
CSF Tetraplex PCR negative
CSF Cryptococcal Ag negative
CSF Meningitis/encephalitis panel negative
CSF flow/lymphoma screen no lymphoma seen
CSF Bacteria/Candida multiplex negative
CSF Melioidosis PCR negative

Discussion and Conclusion

- The following case is an atypical presentation of neuro-melioidosis.
- There are diverse neurologic presentations in reported cases (3,4).
- Neuro-imaging for Neuro-melioidosis often reveals brain abscess (5, 6). In our patient, there is leptomeningeal enhancement, a finding not yet reported in literature.
- The gold standard for diagnosis of melioidosis = isolation of *Burkholderia pseudomallei* in culture.
 - We were not able to isolate the organism in this patient.
 - Meningeal biopsy of region of leptomeningeal enhancement was discussed with patient for diagnostic purposes – but he did not want to proceed as the procedure was invasive.
 - Diagnosis was based on positive serology, which may be more sensitive (7) but has the downside of false-negative results.
- Based on latest Darwin guidelines for management of melioidosis 2024, the treatment for neuro-melioidosis is 8/52 IV (intensive phase), followed by 6/12 PO eradication phase (8).
- Overall, the authors feel this case is consistent with neuro-melioidosis because
 - Patient improved clinically, biochemically and radiologically to treatment for melioidosis
 - Melioidosis serology was positive, and the titres down-trended with treatment

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