Mycobacteria

Mycobacterium tuberculosis.

The management of neurological infections due to non-tubercular mycobacteria is extremely challenging because of scarce literature, issues with penetration, lack of easily available susceptibility platforms and adverse effects associated with long term therapy.

Dash et al. reported a case of a young girl with neurological infection due to rapidly growing mycobacteria to discuss the factors that should be considered while choosing the therapy for such rare and persistent infections [1].

Mycobacterium avium complex (MAC) and Achromobacter xylosoxidans (AX) are uncommon sources of neurosurgical infections, particularly in immunocompetent hosts.

Rotter et al. reported the first published case of intracranial AX abscess and polymicrobial AX-MAC abscess, as well as the fourth MAC abscess in a non-immunocompromised patient.

This case report was conducted via retrospective chart review. A literature review was completed in compliance with Preferred Reporting Items for Systematic Reviews and Meta-analyses guidelines.

Ten years following mucocele resection, a 60-year-old man presented with sinus congestion and headache. Head imaging revealed a left frontal lesion abutting the cribriform plate and ethmoid roof. The patient had a left frontal craniotomy for abscess drainage. Intraoperative cultures demonstrated polymicrobial growth of AX and MAC, managed with antimicrobial therapy and staged skull base reconstruction. Three cases of MAC abscess and 16 cases of AX ventriculitis or meningitis have been reported in immunocompetent patients. All MAC cerebral abscesses occurred in adults, one of whom succumbed to the infection. Of the 9 AX meningitis cases, 4 occurred in neonates and 2 in pediatric patients. Six of the 7 AX ventriculitis cases occurred after neurosurgical operations at the same hospital from contaminated chlorhexidine basins. Except for the neonates, AX ventriculitis or meningitis patients had undergone neurosurgery or had a history of cranial trauma. There were no reports of polymicrobial AX-MAC intracranial abscess.

AX and MAC are rare causes of intracranial infection. Patients with these pathogens identified in the central nervous system require a multidisciplinary approach for successful management [2].

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Dash A, Gupta N, Ray Y, Kodan P, Singh BK, Soneja M. Choosing the therapy for neurological infection with rapidly growing mycobacteria [published online ahead of print, 2020 Aug 24]. Drug Discov Ther. 2020;10.5582/ddt.2020.03026. doi:10.5582/ddt.2020.03026

2)
Rotter J, Graffeo CS, Perry A, Gilder HE, Wilson JW, Link MJ. Polymicrobial Intracerebral Abscess Growing Mycobacterium avium Complex and Achromobacter xylosoxidans: Case Report and Literature Review [published online ahead of print, 2020 Jun 7]. World Neurosurg. 2020;S1878-8750(20)31262-6. doi:10.1016/j.wneu.2020.05.283