Epidemiology of Neuromelioidosis in Asia-Pacific: A Systematic Review

ABSTRACT

Introduction: Neuromelioidosis is a rare complication of melioidosis caused by Burkholderia pseudo mallei, a Gram-negative bacterium commonly found in soil and surface water. Although cerebral involvement of melioidosis comprises only 4% of total complications, it significantly impacts mortality and morbidity. This study aims to perform a systematic review on various neurological complications of melioidosis in the Asia-Pacific region within the previous 5 years. Method: Systematic search was performed in PubMed, Web of Science databases and Google Scholar on neuromelioidosis complications published from 2015-2019.Results: Central nervous system (CNS) complications comprise 5% of all cases of melioidosis. 16 selected articles were analysed based on its risk factors like diabetes mellitus, chronic renal and lung disease, alcohol abuse, and immunosuppression. Neuromelioidosis is detected 6-14 days after the first presentation and confirmed by detailed investigations. Radio imaging helps to differentiate neuromelioidosis from other diagnoses such as meningitis or brain abscess. The majority of literature recommended 2-week intensive Ceftazidime or Meropenem therapy, followed by 3–6 months Trimethoprim and Sulfamethoxazole oral eradication therapy. Conclusion: Neuromelioidosis is rare, with relatively nonspecific CNS clinical features. Patients or travelers from endemic areas with risk factors should be treated cautiously. Radio imaging modalities aid early microbiological sampling and appropriate antibiotic therapy.