

Naegleria fowleri: A deadly miss in emergency rooms

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Dear Editor, A recent report in Dawn highlighted the case of a young woman in Karachi, representing the first confirmed case of *Naegleria fowleri* infection in Pakistan for 2025. This highlights a serious and persistent public health failure that has to be addressed right away.¹

Primary amoebic meningoencephalitis (PAM) is caused by *Naegleria fowleri*, a rare but deadly free-living amoeba. The disease manifests as a fulminant and typically fatal brain infection, with death often occurring within 7-10 days of exposure. It primarily affects healthy children and young adults after contact with contaminated water, especially in warmer months due to the amoeba's heat-loving nature. Despite its scarcity, PAM has a mortality rate exceeding 97%. Critically, its initial presentation often mimics bacterial or viral meningitis; however, a key differentiating factor is that the cerebrospinal fluid (CSF) profile in PAM can be acellular or show neutrophilic pleocytosis without identifiable bacteria on Gram stain, leading to frequent misdiagnosis and delayed treatment.²

In Pakistan, PAM likely remains underdiagnosed due to limited laboratory capacity, lack of clinician awareness, and under-resourced health facilities. The definitive diagnosis requires specific microbiological techniques, such as microscopic identification of motile trophozoites in a fresh, warm CSF sample or PCR testing, which are not routinely available.³

Preventive strategies are feasible and vital. Recommendations include avoiding freshwater exposure that allows water into the nose and using nose clips during swimming. For nasal irrigation and religious ablutions (wudu), only sterile, distilled, filtered, or boiled water should be used. Ensuring proper chlorination of public water supplies and pools is also essential to reduce infection risk.⁴

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We urge the Ministry of National Health Services and the Pakistan Medical and Dental Council (PMDC) to:

1. Integrate PAM into medical curricula and continuing education programmes
2. Develop national emergency room guidelines for suspected amoebic meningitis
3. Launch public awareness campaigns on PAM prevention and early recognition

We also recommend that during the summer months, a high index of suspicion for PAM should be maintained in any patient presenting with sudden-onset fever, headache, and meningeal signs, especially with a history of freshwater exposure.

Behind every missed diagnosis is a life lost too soon. Raising clinical awareness is our most immediate opportunity to change that.

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