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Editorial

Higher prevalence of Listeriosis in Indian subcontinent, a food related menace

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ABSTRACT

Preface: The recent emergence of zoonotic disease from *L. monocytogenes* transmitted directly from infected animals and contaminated food products to humans is on rise in many developing countries. The calculated prevalence in south-east Asia is about 22.2 %. Orations on update are regularly conducted in some countries like Sri Lanka.

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1. Epidemiology

Listeria is a motile, Gram-positive, rod-shaped coccobacillus. It is a non-spore forming, facultatively anaerobic bacterium. *Listeria monocytogenes* is a food borne pathogen which can lead to serious invasive illness, mainly in elderly and immunocompromised patients, pregnant women, newborns and infants. In India, milk and milk products, meat and meat products, seafood and vegetables are often contaminated, hence the incidence of infection becomes more. The prevalence of *L. monocytogenes* and other *Listeria* spp. Was found to be 4.4 and 7.4%. Invasive listeriosis is a more severe form of the disease, which has a high mortality rate of 20 – 30%. The incubation period is as wide as 24 hours to three months. Listeriosis can cause mild, flu-like symptoms such as fever, chills, muscle aches, and diarrhea or upset stomach. There can be stiff neck, headache, confusion, or loss of balance. Infants with neonatal listeriosis can present with fever, lethargy, irritability, diarrhea, poor feeding, vomiting, respiratory distress, or a characteristic skin rash consisting

of widely spread, small, pale nodules (granulomatosis infantiseptica). People with AIDS are almost 300 times more likely to get ill from this infection than people with normal immune systems.¹⁻⁴

2. Severe Symptoms of Listeriosis

Acute meningitis and encephalitis. Other symptoms include rhomb encephalitis, which is the involvement of the midbrain, pons and/or cerebellum linked to cranial nerve involvement or cerebellar signs (ataxia, tremor), or the development of hemiparesis. Presence of Seizure indicate a poor prognosis. An estimated 15-30% of maternal infections with *Listeria* are thought to result in abortions, stillbirths or fatal neonatal illnesses.⁵⁻⁷

3. Diagnosis of Listeria

Gram staining, Polymerase chain-reaction (PCR), Loop-mediated isothermal amplification (LAMP), Immunohistochemistry (IHC) and immunofluorescent assays (IFA) such as Serologic testing for antibodies to listeriolysin O, are diagnostic tests.

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4. Prevention of Listeriosis

Chances of reducing Listeriosis include cleanliness & hygiene, scrubbing raw vegetables, cooking food thoroughly, avoiding soft cheese, cold meats and smoked seafood.⁸⁻¹⁰

5. Optimal Therapy for Listeriosis

Listeria monocytogenes can be effectively treated by using Penicillin, ampicillin, amoxicillin, and gentamicin in dose of 2.5mg/kg/day are recommended for the treatment of *Listeria* infections. β -lactams such as penicillins are effective against *L. monocytogenes* inhibit the synthesis of bacterial cell wall peptidoglycan. Cefotaxime a cephalosporin, has received wide acceptance as a first-line antibiotic for many infections in neonates Combination of two antimicrobials have synergistic actions and also duration of treatment can be shorter. In cases of septicemia or meningitis, the individual can be given intravenous antibiotics and require up to 6 weeks of care and treatment. Vancomycin successfully to treat penicillin-allergic patients. IV antibiotics are preferred in CNS infections. Fluoroquinolones, trovafloxacin and sparfloxacin, ciprofloxacin and ofloxacin, were tested for their in vitro inhibitory and bactericidal activity against 80 strains of *Listeria monocytogenes*. Azithromycin (a macrolide) was fairly bactericidal and could reduce complications of Listeriosis. Linezolid. Is used where the CNS involvement is observed. Dexamethasone is used to control cerebral edema and neurological symptoms. The duration of antimicrobial treatment is about 2 weeks. In cases of infective endocarditis, brain abscess and bone and joint infection, the duration of therapy is 6 weeks.

6. Conflict of Interest

None.

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