EPIZOOTIC ULCERATIVE SYNDROME IN FRESHWATER FISHES IN GANGETIC ALLUVIAL ZONE OF WEST BENGAL, INDIA

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ABSTRACT

Epizootic ulcerative syndrome (EUS), popularly known as “Red spot Disease” is a dreaded disease of freshwater and estuarine warm water fish causing serious depletion of fish resources due to heavy mortality, and affecting the livelihood of fisher men, as ugly skin lesions distract the consumers. EUS has been reported from several species of fishes. The disease is of complex infectious etiology with the involvement of bacteria, virus, and fungi with conflicting reports about the prime etiological agent. The clinicopathological condition of EUS in fresh water fish has been sparsely studied in India, particularly in the state of West Bengal. This study based on 67 water bodies of Gangetic alluvial zone of West Bengal, India, revealed the incidence of EUS in 15 (22%) water bodies. The incidences in culture ponds, public ponds, and water pools were 13.63%, 23.07%, and 50.00% respectively. The difference was non-significant (P≥0.05). EUS was found in thirteen species of fishes viz., Chanana spp., Puntius spp., Cirrhinus mrigala, Labeo bata, Mystus spp., Anabas testudineus, Puntius javanicus, Mastacembelus spp., Notopterus spp., Clarias spp., Cyprinus carpio, Catla catla, and Labeo rohita with the highest incidence in Chanana sp. (89%), followed by Puntius sp. (61%), Labeo bata (54%), and Cirrhinus mrigala (51%). Clinical examination of EUS affected fishes revealed primary skin lesions, haemorrhagic skin lesions, raised haemorrhagic skin lesions, open ulcers surrounded by haemorrhagic patches, and healed open ulcers. The infection rate in young fishes (38%) was higher (P≥0.05) than the adults (33%). Bacterial pathogens were isolated from 21 samples (22.34%) from the cultures of 94 samples of blood, muscle, and visceral organs (kidney and liver) of EUS affected fishes. The incidences of Aeromonas, Pseudomonas, Staphylococcus, and Escherichia coli in pure cultures were 17.18%, 6.25%, 5.26%, and 5.26% respectively. The isolates from blood, muscle, kidney, and liver were 26.0%, 23.6%, 21.0%, and 14.2% respectively. There was no evidence of fungal growth in the glucose peptone pen-strep agar media indicating lack of fungal involvement in EUS.

KEY WORDS

Bacteria, EUS, Fish, Fungus, Incidence, Water body, West Bengal.

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