

Identification of virulent lactose positive *Vibrio* species from *Nemipterus japonicus* off visakhapatnam coast

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In the marine environment, unfortunately there is an increased incidence of bacterial infections caused by environmental and toxicological risks. As fish is a highly perishable food item due to bacterial contamination from the environment, the present study is aimed to isolate the associated bacteria in order to assess the quality and hygiene of edible marine fish, pink perch, *Nemipterus japonicus*. Samples were collected from mucus and internal organs of the fish and cultured under sterile conditions on various types of enriched and selective media for 48 hours at 37°C. The bacterial isolates were identified by employing various standard morphological and biochemical techniques. The pathogens were recognised as halophilic, lactose-positive, Gram negative, motile, curved bacterium *Vibrio vulnificus*. The lactose positive *Vibrio* is a recently recognised marine organism that has pathogenic potential for humans, which may cause blistering dermatitis, gastroenteritis, septicaemia and also affecting the small intestine through secretion of enterotoxins. Thus, the present study puts emphasis on sustainable quality and safety of the fish to the consumer.

Keywords: Pathogen, Lactose-positive, *Vibrio*, *Nemipterus japonicus*

Biography

T. C. Diana obtained her Ph.D. in Zoology at Andhra University, Visakhapatnam, India. She is now Principal investigator for DST Women Scientist Project, New Delhi, India. She is author of seven publications in national/ international journals and presented her research findings in national/ International conferences. Her areas of interest are fish biology, microbiology, pathology, immunology and environmental studies.

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Substance P: A new therapeutic intervention in the healing of diabetic wounds

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Diabetes mellitus is the leading cause of nontraumatic lower extremity amputations globally. Development of chronic non-healing foot ulcerations is one of the most serious and debilitating complications of diabetes. Cutaneous diabetic wounds in addition to causing pain and discomfort and predisposing the patient to superficial and chronic infection, involve significant cost associated with the long term treatment. The most common complications involved in a diabetic for delayed wound healing are: reduction in chemotactic and phagocytic activities of neutrophils, decreased angiogenesis, decreased eNOS activity, depletion of substance P (SP), increased oxidative stress and reduced number of growth factors like PDGF, VEGF etc. SP is a neuropeptide released by cutaneous neurons and is associated with inflammatory processes involving various cytokines and growth factors released from inflammatory cells, as well as epithelial and endothelial cells. It modulates responses in the skin by activating a number of target cells via neurokinin receptors and is able to cause vasodilation because of direct actions on vascular smooth muscle and enhanced production of nitric oxide by the endothelium. Depletion of SP in the central and peripheral nervous system and decrease in number of SP-positive fibers in the dermis of diabetic patients with diabetic neuropathy is one of the reasons of delayed wound healing. So, application of SP could be helpful in wound healing in diabetic patients.

Keywords: Diabetes mellitus, eNOS, Substance P, TGF- β 1, VEGF and wound.

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