New clone of MRSA identified in Kerala aquatic environment

If the concentration of the bacterium increases, it can reach the seafood chain

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A new clone of methicillin-resistant Staphylococcus aureus (MRSA), which is exclusive to Kochi, has been identified. The new clone, christened ‘tfs669 MRSA’, is unique to seafood and the aquatic environment of Kerala.

Scientists at the Central Institute of Fisheries Technology (CIFT), Kochi, identified the new clone while assessing the prevalence of MRSA in seafood and the environment. The study team comprised V. Murugadas, Toms C. Joseph, K.V. Lalitha and M. M. Prasad, all researchers at the Institute.

MRSA can lead to diseases ranging from milder form of skin infections, boils, furunculosis to life-threatening septicemia and bacteraemia from post-surgical contamination. The situation turns worse given their resistance to wide range of drugs, warned the researchers. However, as S. aureus causes disease by producing enterotoxin in the food, there is no immediate threat in consumption of seafood contaminated with MRSA.

"[The emergence of MRSA] has been identified as a health concern globally since the 1960s. However, little information is available on the prevalence of MRSA and its clonal characteristics in seafood and the aquatic environment," the researchers say in a paper published in the Journal of Food Protection.

According to Dr. Murugadas, if the new clone, which is currently low in concentration in the Kochi geographical area, gets established and becomes widely prevalent then it can reach the seafood chain starting from the fish landing centres to the retail outlets very frequently.

The presence of MRSA in fish meant for human consumption is a potential health hazard for food handlers. The fingerprinting of MRSA can be useful for tracing local source and spread of MRSA isolates in a defined geographical area, they said.

Accidental discovery

According to C.N. Ravishankar, director of the CIFT, the scientists stumbled upon the new clone during a regular screening of fish samples, which the institute has been undertaking as part of its research and social responsibility activities. Fish samples collected from the landing centres as well as the markets are regularly screened at the CIFT labs to identity potential health hazards. Extensive research is being undertaken on MRSA.