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Prevalence and characterization of methicillin-resistant *Staphylococcus aureus* isolates from normal working places

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Statement of the Problem: Substantial amounts of pharmaceuticals are used in human and veterinary medicine. The inherent biological activity of these non-regulated pollutants turns their occurrence in the aquatic systems into an environmental concern and leads to the selection of antibiotic resistant bacteria in the environment. Therefore, emergence of antibiotic resistant bacteria, such as Methicillin Resistant *Staphylococcus aureus* (MRSA), has become major hurdle in treatment of various deadly diseases.

Methodology & Theoretical Orientation: The present study was aimed at determining the prevalence of MIRSA in restroom and classroom door handles of the college. 12 locations were selected in the college campus and 21 samples from both the restrooms and classroom handles were collected using sterile cotton swabs dipped in buffered peptone water and transported to the lab. Isolation of *S. aureus* was carried out in mannitol salt agar and the isolates were identified by Gram staining and biochemical tests. Antibiotic susceptibility of these isolates was done by disk diffusion method. Genomic DNA was isolated and purified and is being studied further for *coa* and *spa* genes.

Findings: Four MRSA isolates were obtained and identified. Coagulase tests were found to be negative and their antibiotic sensitivity revealed that the isolates were resistant to ampicillin, amoxycillin, cefoxitin and cefixime. Further sequencing work is being carried out.

Conclusions: In this study, we have the presence of MRSA in different areas of a normal working place. The presence of MRSA in the study emphasizes the need to formulate hygiene measures to prevent possible spread of MRSA and the other transmissible pathogens to students and faculties in the college.

Biography

Sayantan Chatterjee is currently studying in Indian Academy Centre for Research & PG Studies in India. He has completed his Bachelor's degree of Science in Microbiology, Genetics and Biochemistry. His research interest lies in environmental microbiology, health, cancer biology, plant biotechnology, molecular biology and immunology.

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