

A Study on the Prevalence and Microbiological Profile of Nosocomial Infections in the ICU of a Tertiary Care Hospital in Eastern India

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Abstract : This study was done to determine the prevalence of nosocomial infections in the ICU and to identify the common microorganisms causing these infections and their antimicrobial sensitivity pattern. Nosocomial infection or hospital-acquired infection is a localized or a systemic condition resulting from an adverse reaction to the presence of infectious agents. Nosocomial infections are not present or incubating when the patient is admitted to hospital or other health care facility. They are caused by pathogens that easily spread through the body. Many hospitalized patients have compromised immune systems, so they are less able to fight off infections. These infections occur worldwide, both in the developed and developing the world. They are a significant burden to patients and public health. They are a major cause of death and increased morbidity in hospitalized patients, which is a matter of serious concern today. This study was done during the period of one year (2012-2013) in the ICU of the tertiary care hospital in eastern India. Prevalence of nosocomial infection was determined; site of infection and the pattern of microorganisms were identified along with the assessment of antibiotic susceptibility profile. Patients who developed an infection after 48 hours of admission to the ICU were included in the study. A total of 324 ICU patients were analyzed, of these 79 patients were found to have developed a nosocomial infection (24.3% prevalence). Urinary tract infection was found to be more predominant followed by respiratory tract infection and soft tissue infection. The most frequently isolated microorganism was E. coli, Pseudomonas aeruginosa, Klebsiella pneumoniae followed by other organisms respectively. Antibiotic susceptibility test of these isolates was done against commonly used antibiotics. Patients admitted to the ICU are especially susceptible to nosocomial infections. Despite adequate antimicrobial treatment, nosocomial ICU infections can significantly affect ICU stay and can cause an increase in patient's morbidity and mortality. Adherence to infection protocol, proper monitoring and the judicious use of antibiotics are important in preventing such infections on a regular basis.

Keywords : antibiotic susceptibility, intensive care unit, nosocomial infection, nosocomial pathogen

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