Paediatric nosocomial infections – what's new?

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ABSTRACT

Summary: A patient when gets infected in the hospital for a reason other than that of the primary problem or infection acquired during a visit to hospital are labelled as nosocomial infections or hospital-acquired infections (HAIs). These also include infections acquired from hospital but appearing after discharge as well as the occupational infections among staff of the health care facility. Currently, the term healthcare-associated infections has replaced nosocomial, hospital-acquired or hospital-onset infections. Incidence of nosocomial infections in pediatric intensive care unit (PICU) vary between 6.1% and 28%. Children are more susceptible for infection than adults especially in the first two years of life. The infections broadly include blood stream infections (BSIs), respiratory tract infections (RTIs) and urinary tract infections (UTIs). The nosocomial pathogens vary depending upon the site of infection. BSIs related to central lines are usually polymicrobial. The commonly isolated pathogens from BSIs are Klebsiella pneumoniae, Coagulase-negative Staphylococci and Pseudomonas aeruginosa. Common organisms identified from RTIs are Pseudomonas aeruginosa and Staphylococcus aureus and for UTIs, E. coli and Candida albicans. Device-related infections have high risk of mortality. The risk of HAIs depend on host factors, duration of stay in hospital, number of interventions, invasive procedure, aseptic techniques employed and inappropriate use of antimicrobial agents. Concerns about spread of infection by air, water, and contaminated surfaces gradually changed practices in hospitals. Incidence and prevalence of many infectious diseases in developed countries have reduced due to Hospital-based programs of surveillance, prevention and control of healthcare-associated infections with effective implementation of antibiotic stewardship program and proper hand washing. However, the battle against healthcare-associated infections is far from over. Many opportunities for improvement remain and new challenges continue to arise. In addition to the important research contributions that arise directly from the core activities of outbreak investigation, laboratory support, and HAI surveillance, implementation of new strategies like innovative technological approaches and electronic monitoring system for hand hygiene, video monitoring for routine healthcare, peripheral venous catheter traceability, anthropological approaches, healthcare worker communication and biotechnological application of Quorum quenching enzymes will help in preventing transmission when caring for contagious patients.