

Summary

Nosocomial infection is one of the most common causes of morbidity among hospitalized children especially those in pediatric intensive care unit (ICU).

S.aureus is a common human pathogen responsible for a plethora of infections, from superficial skin infection to life threatening diseases such as endocarditis, sepsis and pneumonia.

This work done to study the problem of nosocomial infection in our PICU including, identification of the commonest organisms implicated, studying the variable clinical types of nosocomial infection and possible risk factor for its development infection trying to find the source of nosocomial for future planning of preventive measures for this important infection in our ward.

Detection of the mechanisms of resistance of *S.aureus* to many antibiotics as methicillin vancomycin and macrolides.

This study included 600 diseased patients admitted to PICU, All patients have been evaluated on admission & 4-5 days later in order to detect any hospital acquired infection, initial investigation were done on admission to exude community acquired infection CBC – CRP – blood

SUMMARY

cultures and these investigation were repeated 4-5 days later to detect any hospital acquired infections.

From 600 patients included 150 cases (25%) had nosocomial infection. 50% of them was infant less than one year. Staphylococci represent 33.3% of organisms that cause nosocomial infection.

Staphylococci isolated mainly from the skin 30.0% the number of MRSA isolated from S.aureus 17 cases 42.5% 74% of the staphylococcal respiratory infections isolates were from patients on mechanical ventilation and 83.3% from staphylococcal blood stream infection isolates were from patients on central venous line.

The comparable disk diffusion susceptibility testing results between methicilin & cefotaxime & ampicillin is explained on the basis that MRSA strains are also resistant to other B-lactam drugs. Controlled MRSA testing results must be expressed on all B-lactam drugs (Including cephalosporins & carbapenems)

In our study there is no VRSA all S.aureus strains are sensitive to vancomycin 100%

SUMMARY

There is compined resistance of MRSA against erythromycin cefotaxime, ampicillin on the basis of transfer of erythromycin gene throughout the plasmid with MRSA gene .

Control of hospital acquired infection by hand washing – wearing gloves cleaning the environment minimal invasive technique and education of health care team are the most important factors for reduction of nosocomial infection .

Rational use of antibiotics is very critical for the control and prevention of antibiotic resistance by education the physicians and pharmacists is very basic measure.

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