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Changing trends in the etiology of Respiratory infections in ICUs

Medical Science

KEYWORDS :

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INTRODUCTION :

Respiratory infections are major problem in ICUs.

Ventilator associated pneumonia is the leading cause of morbidity and mortality in Intensive care units (ICUs).

Incidence of VAP varies from 7 to 70% in different studies and mortality rates vary from 20 to 75% according to the study population.

Common organisms included are Staphylococcus *aureus*, Klebsiella *pneumoniae*, Acinetobactor species.

The major risk factor for VAP is intubation and the duration of mechanical ventilation.

AIMS AND OBJECTIVES

1. Isolation of organisms from respiratory bacterial infections in ICUs.
2. Antibiogram of the organisms.
3. Comparision with retrospective data.

STUDY GROUP:

1. Retrospective data of bacterial infections in patients from 2010 to 30-08-2014
2. Prospective data of 100 samples in 2014 of 3 months duration.
3. Both males and females of all age groups are included in the study.

SAMPLE : Sputum, endotracheal aspirates

Inclusion criteria : Sputum, Endotracheal aspirates.

Exclusion criteria : Pus, Urine, Blood, Pleural fluid samples

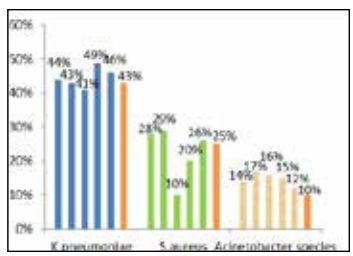
METHODS :

Sputum samples were inoculated onto Mac Conkey and Blood agar plates and incubated at 37°c for 24-48 hrs.

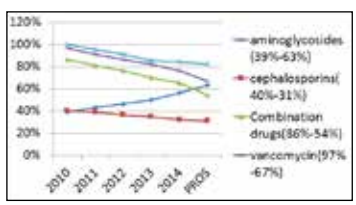
The organism was isolated by routine identification methods and antibiotic sensitivity was done by inoculating on Muller Hinton agar plates using Kirby bauer disc diffusion technique as per standard CLSI guidelines.

RESULTS

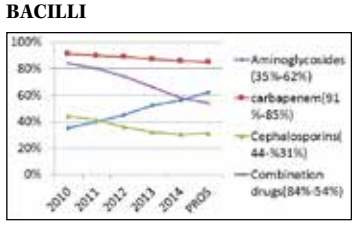
BACTERIAL ISOLATES OF RESPIRATORY INFECTIONS



ANTIBIOTIC SENSITIVITY PATTERN OF GRAM POSITIVE COCCI



ANTIBIOTIC SENSITIVITY PATTERN OF GRAM NEGATIVE BACILLI



DISCUSSION:COMPARSION OF PROSPECTIVE DATA WITH OTHER STUDIES

	Trouillet,Chastre, Vuagnat,et al; VAP	Kucukates ,Kocazey-Aerobic GNB in cardiology ICU pts	Kaul et al-Antibiotic cycling in a medical ICU	
Most common organism isolated	P.*aeruginosa*-15.9% S.*aureus*-13%	Pseudomonas sps-32.7% Acinetobacter sps24% K. *pneumoniae*-19.4%	Klebsiella sps 27%,E.coli-16.8,S. *aureus*-11.7%	Klebsiella sps-43%, S. *aureus*-25%, Acinetobacter species-10%
GNB Antibiotic sensitivity	Combination drugs-74%, Carbapenems-87.7% Cephalosporins-71.5% Aminglycosides55%	Combination drugs17.2%,Carbapenems98.5%,Cephalosporins25.6%Aminoglycosides-35%	Cephalosporins-58.5%,carbapenems-30%,	Combination drugs-54%Carbapenems-85%Cephalosporins-31%Aminoglycosides-62%
GPC Antibiotic sensitivity	Combination drugs-79.8% Cephalosporins-75.7%Aminoglycosides-23%Va-100%	-	-	Combination drugs-54%,Cephalosporins-31%Aminoglycosides-63%Va-67%,Lz-82%

In the study, the most common organisms isolated were Klebsiella species, Staphylococcus *aureus*, Acinetobacter species

For Gram positive cocci, there is increased sensitivity to aminoglycosides and decreased sensitivity to cephalosporins.

For Gram negative bacilli, there is increased sensitivity to aminoglycosides and decreased sensitivity to carbapenems.

The above results showed that there is no much difference in etiology of respiratory infections in ICU's.

CONCLUSION:

Though the present data showed that there is no change in etiology of respiratory infections in ICUs,but gives idea for investigations and empirical treatment.

REFERENCE

1.Ventilator-associated pneumonias caused by potentially drug-resistant bacteria Jean-Louis Trouillet,Jean Chastre,Albert vuagnat 2.High resistance rate against 15 different antibiotics in aerobic Gram negative isolates of Cardiology ICU patients E Kucukates,B Kocazeybek 3.Kaul et al –Antibiotic cycling in a medical ICU