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## Results

Thirty patients (7.8%) developed postoperative infections and total episodes of postoperative infections were 37 (9.6%).

Incidence of surgical site infections (SSIs) was 5.97% followed by urinary tract infections (UTI) 1.82%, hospital acquired pneumonia/ventilator associated pneumonia (HAP/VAP) 1.56% and catheter related blood stream infections (CRBSI) 0.26%.

Coliforms were the commonest pathogens isolated in SSIs (36.36%) and 62.5% were ESBL producers. Equal numbers of *Staphylococcus aureus* and *Acinetobacter* isolates were seen (18.18% each). *Acinetobacter* isolates were resistant to almost all antibiotics.

Among seven pathogens causing UTI were 2 ESBL producing coliforms, 1 *Acinetobacter* species, 1 *Enterococcus* species and 3 *Candida* species.

Among 5 pathogens isolated in HAP, there were coliforms (3/5), *Pseudomonas* species (1/5) and *Streptococcus pneumoniae* (1/5).

*Acinetobacter* species were isolated in both patients with VAP and were resistant to all tested antibiotics.

*Pseudomonas aeruginosa* isolated in CRBSI was resistant to carbapenems.

## Conclusions

Surgical site infections were the commonest postoperative infections. UTI, HAP, VAP and CRBSI were also detected. Gram negative organisms were the predominant pathogens.

Gram negative organisms were the commonest pathogens causing SSIs. Majority of SSIs were superficial incisional SSIs in which wound cleaning alone may play an important role in the management. If antibiotics are indicated carbapenems and amikacin are the most effective empirical treatment.

ESBL production among coliforms (61.5% of all coliforms) is a significant problem in this population.

Infections caused by carbapenem resistant organisms (37.5% of all Gram negative bacilli) are treatment challenges detected in this study.

## OP 12

### Evaluation of bactericidal effect of three antiseptics on bacteria isolated from wounds

Kottahachchi J<sup>1</sup>, Kumara DUA<sup>2</sup>, Dissanayake DMBT<sup>1</sup>, Athukorala GIDDAD<sup>1</sup>, Chandrasiri NS<sup>3</sup>, Damayanthi KWN<sup>1</sup>, Hemarathne MHSL<sup>1</sup>, Fernando SSN<sup>1</sup>, Pieris H<sup>4</sup>, Pathirana AA<sup>2</sup>

<sup>1</sup>Department of Microbiology, and <sup>4</sup>Department of Biochemistry, Faculty of Medical Sciences, University of Sri Jayewardenepura, <sup>2</sup>Professorial Surgical Unit, Colombo South Teaching Hospital, <sup>3</sup>Department of Microbiology, Colombo South Teaching Hospital.

## Introduction

Antiseptics are widely used in wound management to prevent or treat wound infections due to proven wound healing properties regardless of their cytotoxicity.

## Objective

To determine the bactericidal effects of three antiseptics on pathogens causing wound infections.

## Design, settings and methods

Study was done at Colombo South Teaching Hospital and Department of Microbiology of University of Sri Jayewardenepura in 2013. Forty eight stored bacterial isolates from wounds, standard strains of *Staphylococcus aureus*, *Escherichia coli* and *Pseudomonas aeruginosa* were tested for bactericidal effects of 3 acids (acetic acid, ascorbic acid and boric acid) in three concentrations (0.5%, 0.75% and 1%). Bacterial suspensions were equivalent to 0.5 McFarland standard.

## Results

There were 33 (68.8%) Coliforms, 10 (20.8%) *Pseudomonas* species, and 5 (10.4%) *Staphylococcus aureus*. Acetic acid at concentration of 0.5% inhibited growth of 37 (77%) and 42 (87.5%) of tested isolates when exposed for 30 and 60 minutes respectively. However 100% inhibition was achieved at 4 hours. At concentration of 0.75%, 40 (83.5%) and 44 (91.6%) were inhibited when exposed for 30 and 60 minutes respectively. Similarly 100% inhibition was achieved at 4 hours. At concentration of 1%, 46 (95.8%) inhibition was seen at 30 minutes and 100% inhibition at 60 minutes.

Ascorbic acid, at 0.5% and 0.75% concentrations, inhibited growth of 45 (93.7%) and 47 (97.9%) of isolates respectively when exposed for 30 minutes. At these two concentrations, 100% inhibition was achieved when exposed to one hour. At 1% concentration, 100% inhibition was achieved at 30 minutes.

Boric acid did not show bactericidal effect at concentrations of 0.5%, 0.75% and 1%. Ascorbic acid was bactericidal for all organisms tested within the shortest exposure time at the lowest concentration compared to other 2 acids. *Pseudomonas* species were inhibited at 30 minutes by 0.5% acetic acid.

Bactericidal effect against all six standard strains was seen with three acids at each concentration tested from 30 minutes onwards.