



Proceedings of
1st Research Symposium - Faculty of Allied Health Sciences
University of Ruhuna

**"PROFESSIONAL EMPOWERMENT THROUGH
RESEARCH AND EDUCATION"**

November 08, 2018



Faculty of Allied Health Sciences, University of Ruhuna
Galle (80000), Sri Lanka.

OP 31 - Pathogenic Bacterial Spectrum and Susceptibility Pattern in Adult Cancer Patients at Apeksha Hospital, Maharagama – Preliminary Findings

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Background: Infectious diseases are an important cause of death among cancer patients. The main risk factor for infection is neutropenia associated with chemotherapy.

Objectives: To determine the spectrum and the antimicrobial sensitivity pattern of the bacteria causing respiratory infections, skin and soft tissue infections (SST) and complicated Urinary Tract Infections (UTI) in cancer patients.

Methodology: Cancer patients who were given both immunosuppressive therapy and parenteral antibiotics, presented with respiratory infections, SST and UTI were included (n=55). Pathogenic bacteria were isolated from sputum, pus, urine, wound swabs and bronchio-alveolar lavage specimens.

Results and conclusions: Of the 55 patients, 25 (45.4%) had haematological malignancies and the rest had solid organ tumours. The most common infection was respiratory infection (43.6%). Majority of the infections were caused by coliform bacteria (61.8%) followed by *Staphylococcus aureus* (16.3%) and *Pseudomonas* species (10.9%). Of the 9 *S. aureus* isolates, 5 were methicillin resistant. Extended spectrum of β -lactamase production was detected in 20.4% of the coliform bacteria. Inducible clindamycin resistance was observed in one *S. aureus* isolate. Multi drug resistance *Acinetobacter* species was isolated from 4 patients with respiratory infections. One *Acinetobacter* isolate was resistant to all recommended antibiotics while the other three were only sensitive to colistin. Higher resistance rates were observed (>50%) for first line antibiotics in coliform bacteria. Resistance rates of coliform bacteria for imipenem/meropenem and piperacillin-tazobactam are 48.4% and 74.2% respectively. The highest sensitivity rate of coliform was detected for amikacin (71%). Coliform bacteria were more prevalent as a pathogen in adult cancer patients receiving immunosuppressive therapy. Antibiotic resistance is a main problem when selecting antibiotics for the treatment in this patient group.

Keywords: antibiotic resistance, cancer, coliform