

## Analysis of Clinically Significant *Acinetobacter* Spp Isolated from a Base Hospital (BH) of Sri Lanka during a One-Year Period

Lakmini Inoka Wijesooriya<sup>1</sup>, G.P.C. Jayawardana<sup>2</sup>, S.H.N.A De Silva

**Introduction:** *Acinetobacter* spp are potential opportunistic pathogens. Being a water-trophic organism, it stays in humidifier water, sink basins, suction apparatus, disinfectant fluids etc. Number of cases due to *Acinetobacter* spp are increasing globally & locally. Treatment of *Acinetobacter* infections is a great challenge due to its resistance to most antibiotics. However, awareness about antibiotic sensitivity (ABST) pattern of the organism would streamline empiric antibiotic therapy.

**Objective:** To identify the burden & ABST pattern of *Acinetobacter* spp isolated during a one-year period.

**Method:** A descriptive, cross-sectional study was carried out involving patients with clinically significant *Acinetobacter* infection at BH, Wathupitiwala from 01/08/2017 to 31/07/2018. The number of *Acinetobacter* spp identified from the total number of positive cultures obtained during the same period was analyzed. Demographic & clinical data of patients infected with *Acinetobacter* spp were also analyzed. ABST (John-Stokes method) of *Acinetobacter* spp were analyzed for gentamicin, amikacin, cefotaxime, ceftazidime, ceftriaxone, cefepime, cefoperazone-sulbactam, piperacillin-tazobactam, ampicillin-sulbactam, ticarcillin-clavulanic acid, ciprofloxacin, levofloxacin, co-trimoxazole, meropenem & polymyxin B.

**Results:** Of 920 total bacterial cultures performed over the study period, 44% (404/920 - urine samples, 26% (238/920) - sputum, 23% (215/920) - pus & wound swabs & 7% (63/920) - blood. Of positive blood cultures, 7% (5/63) were by *Acinetobacter*. Of the total, satisfactorily taken sputum samples, 21% (65/238) were positive for *Acinetobacter*. *Acinetobacter* positivity was 7% (17/215) from pus & wound swabs. None (0/404) of the urine samples grew *Acinetobacter*.

Of 87 patients, who had *Acinetobacter* infections, all were inpatients while 56.3% were males & 43.7% were females. Age distribution; 0% children (<12 years), 68.9 % adults (12- 65 years) & 31.1% elderly (>65 years) patients.

As per ABST, sensitivity was 4.5% for cefotaxime, 6.9% for ceftriaxone, 9.2% for ticarcillin-clavulanic acid & ceftazidime each, 12.6% for cefepime, 16% for gentamicin & ciprofloxacin each, 14.9% for piperacillin-tazobactam & meropenem each, 16.1% for levofloxacin & co-trimoxazole each, 17.2% for ampicillin-sulbactam, 25.3% for amikacin, 60.9% for cefoperazone-sulbactam, & 94.2% for polymyxin B.

**Conclusion:** Most *Acinetobacter* spp were recovered from respiratory samples indicating its preponderance to cause respiratory tract infections. Most *Acinetobacter* infections were from inpatient, adult, males. A great majority of *Acinetobacter* spp were sensitive to polymyxin B. Only about 2/3rd of isolates were sensitive to cefoperazone-sulbactam & sensitivity was <25% for commonly used cephalosporins, carbapenems, quinolones, aminoglycosides, co-trimoxazole, & beta-lactam – beta-lactam inhibitor combinations.

**Keywords:** *Acinetobacter* Infections, Antibiotic Resistance

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<sup>1</sup> Department of Medical Microbiology, Faculty of Medicine, University of Kelaniya, Ragama, Sri Lanka

<sup>2</sup> Microbiology Laboratory, Base Hospital, Wathupitiwala, Sri Lanka