TITLE: ANTIMICROBIAL RESISTANCE AND PHENOTYPIC DETECTION ENZYMES EXTENDED-SPECTRUM B-LACTAMASES (ESBLS) OF MICROORGANISMS ISOLATED OF ENDOTRACHEAL TUBE FROM PATIENTS WITH MECHANIC VENTILATION IN THE INTENSIVE THERAPY UNIT (ITU)

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ABSTRACT

Invasive procedures such as mechanical ventilation can result in development of nosocomial infections, mainly in immunocompromised patients. This situation gets worse when the infection occurs by antimicrobial resistant microorganisms. This study aimed to evaluate the antimicrobial resistance of bacteria isolated from mechanical ventilation tubes of patients in Intensive therapy Unit.. Samples were collected from 47 patients, of both sexes, with sterile swabs and inoculated in MacConkey agar, mannitol salt agar, blood agar and trypticase soy agar, with identification by Gram staining, biochemical tests and sequencing. The bacteria were subjected to susceptibility test using 20 antibiotics of different classes and phenotypic tests for the production of beta-lactamase extended spectrum - ESBL, AmpC. Most tubes (61.70%) were contaminated by bacteria and yeasts. The bacteria were identified as *Staphylococcus aureus, Staphylococcus epidermidis, Staphylococcus sp.,Bacillus licheniformis*, *Bacillus aerius*, *Pseudomonas aeruginosa, Enterobacter aerogenes., Klebsiella pneumoniae, Klebsiella varricola, Klebsiella sp., Serratia marcescens* and six strains as the family Enterobacteriaceae. The yeasts were identified as *Candida albicans.* The Gram-negative bacteria (15 strains) were resistant to amoxicillin-clavulanic acid, ampicillin, cephalothin, cefazolin and imipenem. The Gram positive (6 strains) were resistant to ampicillin, cefepime, oxacillin and penicillin G. None of the strains produced AmpC and 10 strains(10% *Bacillus aerius,* 10% *Enterobacter aerogenes,* 10% *Serratia marcescens,* 10% *Staphylococcus aureus,*10% *Staphylococcus epidermidis,* 20% *Staphylococcus sp.*and 30% of family Enterobacteriae) were positive for ESBL production. The results showed that mechanical ventilation tubes can be contaminated by several microorganisms resistant to one or more of the commonly used drugs, which may contribute to the development of nosocomial infections

Keywords: Mechanical ventilation; Resistance; ESBL. Infection.

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