### Epidemiology of multi drug resistant bacteria in Mechanically Ventilated Patients at intensive care units of trauma and surgery hospital in Qazvin

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**Abstract:** Background & Objectives: Ventilator-associated pneumonia (VAP) is the most frequent intensive care unit (ICU)-acquired infection among patients receiving mechanical ventilation. Failure to initiate appropriate and adequate therapy has been associated consistently with higher mortality rates. The aim of this study were determined the distribution of pathogens, drug susceptibility and MDR bacteria, in intubated patients in ICU.

**Materials & Methods:** A cross-sectional study was conducted for 18 month in Qazvin Shahid Ragaie Trauma & Surgery hospital. Take the tracheal aspiration samples from all intubated patients after 48 -72 hours of their intubations and measured body temperature at the same time. Sample exam for microbiologic analysis by standard methods. Isolates were screened for drug susceptibility by agar – disk diffusion with applied quality control for all anti biotic disks(mast Diagnostic- England).ESBL production detected by screening and confirmatory test, (clavulanic acid combined disk, mast Diagnostic- England ) and methicillin-resistant Staphylococcus aureus (MRSA) were defined by disk diffusion of oxacillin and cefoxitin disk recommended by the methods according Clinical Laboratory Standards Institute (CLSI). Pseudomonas aeruginosa and Acinetobacter isolates were screened for drug susceptibility in addition by E test (AB BIODISK).

**Results:** Out of the 636 hospitalized patients in ICU during study period 51 (8.2%) were intubated and received mechanical ventilation.6 patients for different reason out of study and were our missing.43 (95.6%) of 45 tracheal aspirate samples had positive culture and 37 (86.1%) of these patients had high temperature. Most common isolated pathogens were Acinetobacter spp ;13 (30.2%), Klebsiella spp ; 11 (25.6%), Pseudomonas aeruginosa;9 (20.9%) , other gram negative bacilli ; 6 (14%) and MRSA ; 4 (9.3%). Among the bacterial species, ESBLs production detected in 9 out of 11 (81.8%) isolates of Klebsiella spp. Among Acinetobacter spp isolates resistance to ceftazidime and imipenem were 100% and 76.9% respectively and 66.7% of Pseudomonas aeruginosa isolates not susceptible to ceftazidime and imipenem.

**Conclusion:** Surveys of the frequency of etiologic organisms and susceptibility patterns and detection multi drug resistant and ESBLs producing bacteria are important in determining optimum empirical therapy for critical patients in ICU.

**Keywords:** ICU, Mechanically Ventilated Patients, MDR bacteria, ESBL

**Presentation:** Poster