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**Title:** Molecular epidemiology and clonality of multidrug-resistant Acinetobacter baumannii in a university hospital in Tabriz, Iran

**Authors:** Amir Peymani1*, Mohammad-Reza Nahaei2, Safar Farajnia3, Alka Hassani2, Nasrollah Sohrabi4, and Laleh Abbasi1

**Abstract:** Background and Objectives: In recent years, multidrug-resistant (MDR) A. baumannii has become a major clinical concern because of its different resistance patterns and clonal spread of resistant isolates. The aim of this study was to evaluate possible clonal relationship of MDR A. baumannii isolates by repetitive extragenic palindromic sequence-based polymerase chain reaction (REP-PCR) and Sequence-type multiplex-PCR in Imam Reza hospital, Tabriz.

**Materials & Methods:** A total of 80 MDR A. baumannii isolates were collected from different clinical specimens during a 1-year period. Species identification was confirmed by detection of blaOXA-51-like gene. Three sets sequence-type multiplex-PCR assays were performed to assign multidrug-resistant A. baumannii belonging to particular genotypes of sequence groups (European clone I, II and III). Genetic relationship of MDR strains was also evaluated by REP-PCR and then using cluster analysis method.

**Results:** Sequence-type multiplex-PCR showed that 63 (79%) of multidrug resistant isolates belonged to group 1 (European clone II), 14 isolates (17.5%) belonged to group 2 (European clone I) and 3 isolates (4%) were belonged to non European clones I, II and III. None were belonged to group 3 (European clone 3). REP-PCR revealed that multidrug-resistant isolates belonged to three distinct main genotypes which confirmed this clustering.

**Conclusion:** We found clonal spread and circulation of MDR A. baumannii isolates (more importantly corresponding to EU clone II) in different wards of our hospital. European clone II seems to be particularly successful in its spread in non-European countries. Early recognition of strains belonging to clones with high transmissibility potential would be beneficial by leading to the implementation of infection control measures in order to prevent further spread in hospital.

**Keywords:** Multidrug-resistant A. baumannii, REP-PCR, Sequence-type multiplex-PCR

**Presentation:** Poster