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**Title:** Prevalence of methicillin-resistant S. aureus (MRSA) and vancomycin-resistant Enterococcus (VRE) in a teaching hospital in Tabriz

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**Abstract:** Background and Objectives: Staphylococcus aureus and enterococci are major causes of community acquired and health-care related infections around the world. Over the past decade, the emergence of methicillin-resistant S. aureus (MRSA) isolates and vancomycin-intermediate (VIE) or vancomycin-resistant enterococci (VRE) has made therapy of staphylococcal and enterococcal diseases a global challenge. This study was carried out to investigate the prevalence of methicillin resistance in S. aureus isolates and vancomycin resistance among Enterococcus spp. isolates at Children hospital in Tabriz, northwest of Iran.

**Materials and methods:** Various clinical specimens sent to microbiology laboratory of Children hospital during 12 months period (April 2010 to March 2011), were studied for isolation and identification of S. aureus and Enterococcus spp. Antibiotic susceptibility of the isolates was tested by disk agar diffusion method according to CLSI recommendations.

**Results:** A total of 119 S. aureus and 42 Enterococcus spp. isolates were collected. Among S. aureus isolates 43 (36.1%) were from blood culture, 27 (22.7%) from urine culture, 46 (38.6%) from wound culture and 3 (2.6%) from throat culture. Of 119 S. aureus tested, 106 (89%) strains were detected as being MRSA and 13 (11%) were methicillin-sensitive S. aureus. Among Enterococcus species 39 (92.8%) were from urine culture and 3 (7.2%) from blood culture. Vancomycin-resistant enterococci (VRE) were isolated from 8 (19.4%) samples. Thirty-three (78.6%) and 1 (2%) of Enterococcus isolates were vancomycin sensitive and intermediate, respectively. There was a markedly higher incidence of resistance among S. aureus and Enterococcus spp. in ICUs compared to general hospital wards. All S. aureus were vancomycin susceptible, but decreased susceptibility to vancomycin was found among 2.5% of isolates.

**Conclusion:** These results represent a rather high prevalence of MRSA and alarming rate of VRE as potential causes of nosocomial infections in this hospital. These data provide much needed information on the prevalence and antimicrobial resistance of MRSA and VRE isolates in other regions of Iran.

**Keywords:** S. aureus, Enterococci, MRSA, VRE, hospital, Tabriz

**Presentation:** Poster