**ID: 1910**

**Congress: The First International Congress of Medical Bacteriology**

**Title:** Emergence of Methicillin-Resistant Staphylococcus aureus as a causative agent of infective enterocolitis in patients with Antibiotic associated diarrhea

**Authors:** Anahita Dezfulian, Masoud Alebouyeh*, Ehsan Nazemalhosseini Mojrad, Mohammad Reza Zali

**Abstract:**

**Aim**
This study was aimed to investigate the frequency of overgrown methicillin-resistant Staphylococcus aureus (MRSA) isolates in stool samples of patients with antibiotic associated diarrhea (AAD).

**Background**
The bacterial species Staphylococcus aureus, including its methicillin-resistant variants (MRSA), had been found primarily in their common ecological niche, the human nose, but is also able to colonize the intestines and the perineal region. There are some evidences representing intestinal S. aureus (MRSA) as a potential cause of antibiotic associated diarrhea (AAD).

**Method**
The epidemiology of colonization and infection with MRSA was studied in patients with AAD. This study was evaluated the prevalence of methicillin-resistant Staphylococcus aureus (MRSA) isolates in stool samples had been submitted to the laboratory with the diagnosis of nosocomial diarrhea. A total of 290 stools from clinical patients were investigated for S. aureus. Biochemical characterization and antimicrobial susceptibility testing were done according to the standard protocols.

**Results**
Out of 290 investigated stool samples, 62 (21%) grew S. aureus; 42 (67%) of them have determined as S. aureus overgrowth. Majority of the isolates were sensitive to vancomycin 59 (95%) and linezolid 100 (100%). Highest percentages of resistance were detected against gentamicin 36 (58%), oxacillin 55 (88.7%), penicillin 58 (96%), amoxy/clav 34 (54%) and ciprofloxacin 34 (54%).

**Conclusion**
Involvement of methicillin-resistant S. aureus in AAD seems to be a major challenge for treatment of patients with underlying disease. Emergence of highly virulent and resistant strains of S. aureus in hospital niches, in a similar way for C. difficile, is of major problem in new years. Surveillance study on coexistence of these resistant bacteria in hospital units might be necessary to prevent the occurrence of AAD in hospitalized patients. Rapid and specific care is recommended for such patients to prevent spread of the MRSA strains.

**Keywords:** colonization; methicillin-resistant Staphylococcus aureus

**Presentation:** Poster