

10th International Congress on

CLINICAL VIROLOGY, FUNGAL INFECTIONS & INFECTIOUS DISEASES

December 04-05, 2017 Dubai, UAE

SCC*mec* and *mecA* in methicillin resistant staphylococci, a highly diversified element with new mutations in *mecA*

Ferhat Djoudi and Dalila Benremila
University of Bejaia, Algeria

Genetic mechanisms of methicillin resistance are still relevant in staphylococci. The aim of this study is to assess the possible exchanges of staphylococcal cassette chromosome *mec* (SCC*mec*) between isolates of methicillin-resistant staphylococci (MRS) and to check for known or new mutations in *mecA* DNA. A total of 35 MRS non-repetitive isolates were recovered, including 20 *S. haemolyticus*, 7 *S. aureus*, 4 *S. sciuri*, 2 *S. saprophyticus* and one isolate each of *S. xylosus* and *S. lentus*. Only 16 of the 35 strains were assigned to known SCC*mec* types: 7-SCC*mec* VII, 6-SCC*mec* IV and 3-SCC*mec* III, with possible horizontal transfer of the SCC*mec* VII from methicillin-resistant *S. haemolyticus* to methicillin-susceptible *S. aureus*. *mecA* genes sequencing in ten selected isolates allowed description of nine punctual mutations, seven reported for the first time. The most frequent mutation was G246E, identified in isolates of methicillin-resistant *S. aureus*, *S. sciuri*, *S. saprophyticus* and *S. lentus*. These results emphasized the high degree of genetic diversity of SCC*mec* element in methicillin-resistant staphylococci and describe new missense mutations in *mecA*, which might be important in understanding the evolution of methicillin and new β -lactams resistance.

djoudi.ferhat@gmail.com