Machuca, Mayra Alejandra; González, Clara Isabel; Sosa, Luis Miguel
Methicillin-resistant Staphylococcus aureus causes both community-associated and health care-associated infections in children at the Hospital Universitario de Santander
Biomédica, vol. 34, núm. 1, abril, 2014, pp. 163-169
Instituto Nacional de Salud
Bogotá, Colombia

Available in: http://www.redalyc.org/articulo.oa?id=84330489019

Abstract
Introduction: Methicillin-resistant Staphylococcus aureus (MRSA) is a frequent cause of infection in the pediatric population. Initially, MRSA was restricted to hospitals; however, outbreaks in the community among people without health care-related risk factors have been reported worldwide. Currently, MRSA is a frequent cause of both hospital and community-associated infections. Objective: To describe the relationships between the molecular characteristics of MRSA isolates (staphylococcal cassette chromosome mec (SCCmec) type and Panton-Valentine leukocidin (PVL) carriage) and the characteristics of infection (the origin and localization of infection) in pediatric patients at the Hospital Universitario de Santander in Bucaramanga, Colombia. Materials and methods: A total of 43 MRSA isolates were obtained from hospitalized pediatric patients. SCCmec typing (I-V), SCCmec IV subtyping and PVL carriage were determined and related to the clinical characteristics. Results: Among the MRSA isolates studied, SCCmec IVc was present in 77%, followed by 16% for SCCmec I and 2% for SCCmec IVa. Two isolates were not typeable (NT). PVL genes were carried by 88% of the MRSA isolates, including the SCCmec IVc/IVa and SCCmec I isolates. SCCmec IV caused both community-acquired infection (CAI) (47%) and nosocomial infection (HAI) (53%). SCCmec IV, PVL-positive MRSA was associated with both CAI (47%) and HAI (53%) and caused mostly SSTI and osteoarticular infection. Conclusions: These findings suggest that the presence of community-associated MRSA (CA-MRSA) (SCCmec IV and PVL positive) causes both health care-associated infection (HCAI) and nosocomial infection (HAI) in pediatric patients in Colombia.

Keywords
Methicillin-resistant Staphylococcus aureus, patients, child.