Dissemination of Community-Associated Methicillin-Resistant Staphylococcus aureus CMRSA7 (US400) in Northern Saskatchewan, Canada

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ABSTRACT

Objective: Although much attention has focused on community-associated methicillin-resistant Staphylococcus aureus (CA-MRSA) in large urban centres in Canada, some reports have described the emergence of CA-MRSA in northern communities. This study examines the incidence of CA-MRSA in the northern half of Saskatchewan.

Methods: Surveillance was conducted over six years beginning in 2001 in the 11 of the most northerly health regions in Saskatchewan for all communities (on and off-reserve). Specimens from clinical indications were collected from nosocomial and community-acquired infections. MRSA positive cases were obtained from public health laboratories and isolates were subjected to antibiotic susceptibility testing and pulsed-field gel electrophoresis (PFGE)

RESULTS

**Introduction**

Commonlyassociated methicillin-resistant Staphylococcus aureus (CMRSA) is an emerging pathogen in North America. These strains differ from typical hospital-acquired MRSA due to their more diverse antimicrobial resistance, making them particularly problematic. These strains have been associated with on-reserve and off-reserve individuals as well as remote indigenous groups. Community-acquired MRSA (CA-MRSA) infections may be more difficult to control due to the difficulty in sentinel surveillance due to the small size of the community.

**Materials and Methods**

Data were obtained from public health surveillance of MRSA in northern Saskatchewan from 2001 to 2006. Data included demographics, specimen site, diagnosis, organism isolated, and antibiotic sensitivities. Additional clinical information was obtained through public health follow-up reports available for some isolates.

**Results**

Community-acquired MRSA (CMRSA) has been reported only sporadically in Canada (1). However, rates have been noted in the late 1990's (2). A subset of MRSA from blood cultures were subtyped by macrorestriction analysis using pulsedfield gel electrophoresis (PFGE) following the Canadian Standardized Protocol as described previously (3). The CMRSA strain isolated from blood cultures were subtyped by macrorestriction analysis using pulsed-field gel electrophoresis (PFGE) following the Canadian Standardized Protocol as described previously (4).

**Discussion**

CMRSA is an emerging pathogen in many countries. These isolates differ from typical hospital-acquired MRSA due to their more diverse antimicrobial resistance, making them particularly problematic. These isolates have been associated with on-reserve and off-reserve individuals as well as remote indigenous groups. Community-acquired MRSA (CMRSA) infections may be more difficult to control due to the difficulty in sentinel surveillance due to the small size of the community.

**References**


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