

Information

Community-acquired MRSA

For the Eeyou Istchee communities

By:

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2012-06-06

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Initial observation:

Lately, we have observed an increase of the MRSA rates in the Eeyou Istchee communities. The proportion of asymptomatic carriers is unknown and the presence of patients with infections of the skin and / or soft tissues caused by community-acquired MRSA is well documented. Following the analyses of the charts, we note that a growing number of people without the usual risk factors are affected. Often these are children and young adults without a recent history of hospitalization. Clinical picture of skin infection (abscesses, boils, cellulites, etc.) is very frequent with a few more severe cases (bacteriemia, osteomyelitis, pneumonia). The analyses performed confirm in most cases a community-acquired MRSA, which differs from hospital-acquired MRSA. The evolution of the situation is now followed by the Public Health after a report of a local physician.



What is CA-MRSA?

Staphylococcus aureus is a bacterium part of the normal skin, throat and nostril flora of some persons. With the growing use of antibiotics, some strains have become resistant to different types of antibiotics, such as methicillin, thus the abbreviation of methicillin-resistant Staphylococcus aureus, MRSA. It became famous for its important nosocomial spreading (in healthcare settings) and the abbreviation AH-MRSA is used to design the hospital-acquired MRSA. The CA-

MRSA, or community-acquired MRSA, designs the MRSA in individuals without the usual risks factors such as recent hospitalisations or wearing fixed medical apparatuses. The strains are generally distinct between community and hospital acquired MRSA. Moreover, CA-MRSA has often a gene responsible for a toxin called Penton-Valentine leukocidin (PVL) which promote skin and soft tissues infections in its carriers.



What is the presentation of the CA-MRSA?

As mentioned earlier, there are asymptomatic carriers among the population. These persons can transmit the CA-MRSA without knowing that they are carriers. According to the CDC (2006) information, clinical manifestations that may occur are the following:

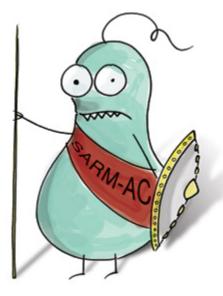
Most frequent	Rare
Furuncles	Pneumonia
Abscess	Septicaemia
Cellulites	Osteomyelitis
Impetigo	Necrotizing fasciitis
	Disseminated infections with septic embolism
	Purpura fulminans

Who should be tested or screened?

It is important to notify properly all health professionals of the community concerning increased prevalence of the CA-MRSA in order to work as a team and consider this possibility in the differential for skin infections and soft tissues. Systematic screening of all patients is not recommended.

The persons who should be tested or screened are the following:

- Patients with skin lesions or other syndrome compatible with MRSA infections. (Diagnostic test).
- Patients who have to stay more than 24 hrs in a health care institution, patients who are immunosuppressed or on haemodialysis (Screening test).



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How to manage CA-MRSA?

A simple cutaneous abscess without associated cellulites can be treated by drainage through excision with a follow-up until recovery. It is important to cover properly the wounds in order to avoid transmission risks. The cases that require an antibiotic therapy must be analyzed individually. <u>In addition, it is important to consider the antibiogram in order to make an informed choice.</u>

According to the CDC (2006) the following factors should be considered as indication for an antibiotic treatment:

- The severity and the rapid progression of the infection.
- The presence of associated cellulites.
- The signs and symptoms of a systemic infection.
- The patients with significant co-morbidities or who are immunosuppressed.
- A lesion in a location difficult to drain completely or that can be associated with septic phlebitis of major vessels.
- No response to the initial drainage treatment by excision.
- Patients of extreme age (young children or the elderly).
- Diabetics treated with insulin.

Promoting basic measures, a major impact!

For the control of the transmission of CA-MRSA, it is essential. Therefore, the following must be especially emphasised:

- Hand washing frequently with water and soap or an antiseptic cleaner
- Importance of a good body hygiene
- The disinfection of the environment, stressing the surfaces frequently touched
- No sharing of personal hygiene items such as soaps, towels, etc.
- Regular cleaning of the clothes and the beddings.
- Covering properly the wounds and changing regularly the dressings

2012-06-06



Several means can be taken to promote basic measures in the community. Imagination is the limit! Here are a few means to guide the actions to be taken:

- Distribute leaflets regarding the basic measures (English and French versions are available).
- Raising the daycares awareness regarding cleaning the environment and applying basic measures.
- Order no rinse hand cleaner of the antiseptic gel type and distribute it to the families in order to promote their use in conditions where soap and water are not accessible for hand washing.
- Order cleansing cloths with chlorexidin base for the body and distribute them to the families who go in a setting where water and soap are not accessible for personal hygiene.
- Use the community radio to explain in a simple way the present situation and to promote the basic measures in order to raise the population's awareness.
- Join up with the school nurse in order to make vignettes promoting the basic measures in the schools.
- Meetings with the sports teams to promote hygiene after sports activities (especially with borrowed equipment), encourage the use of individual equipment.

Decolonize ... or not to decolonize?

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The decolonization of patients and their household is a measure that should not be applied to all. Note also that the recommendations are not the same for CA-MRSA and HA-MRSA. Regarding community acquired MRSA, it is recommended to decolonize in the following situations when the basic measures are not efficient:

- Several infected persons living under the same roof.
- One person exhibits repeated infections to CA-MRSA.

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DECOLONIZATION PROCEDURE FOR CA-MRSA FOR THE PATIENT & THE HOUSEHOLD:

- Mupirocin cream (not ointment) at 1/3 distal of the nostrils with a Q-tip BID
- Mupirocin cream in the body areas with dermatitis or cutaneous lesion (if the area is not too extensive)
- Phisohex body soap, every day if tolerated but at least 3 X a week, from the scalp to the toes, avoiding the eyes and ears. (not for very young babies). For children or if Phisohex is not tolerated, chlorexidin 4% can be used in a soap base. It is important to insist on the body parts that are often damp, such as the armpits, the groin and the perianal area.

Treat all the persons living under the same roof, AT THE SAME TIME, fro 2 weeks. Repeat the screening 1 to 2 weeks after the treatment. In case of failure or for damaged skin, consider adding oral antibiotics (in can be done in consultation with the Public Health physician).

Note that patients with dermatitis can be the subjects of the significant colonization and can transmit MRSA much easier. In their case, treating the cause of the dermatitis becomes an important intervention.

(Suggested by Dr. Libman, MUHC, transmitted by Dr. Carlin, Medical Consultant for the Infectious Diseases Program at the Public Health Department, August 2012.)

How to prevent nosocomial transmission?

The Clinic is a favourable place for germ transmission. In case of a community outbreak, the basic measures are essential in order to limit transmission risks. If properly applied, the basic measures are very effective:

- Frequent and adequate hand washing with soap and water or with an antiseptic gel. After each patient and removing the gloves, insist on hand washing.
- Wearing gloves for providing direct care to the patients.
- Wearing a gown, a mask and eye protection during procedures that may produce droplets.
- Wearing the mask in case of suspected MRSA pneumonia.



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- Wearing a gown and gloves when providing direct care to a known MRSA carrier.
- <u>Between each patient</u>, stringent washing of the objects and surfaces touched by patients by using a disinfectant (Ex: Stretcher, stethoscope, cuff, table, door knob, etc.).
- Daily cleaning of the environment at risk in the health care centres (high touch surfaces) with a disinfectant.



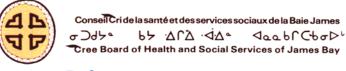
- Do not hospitalize in the same room a patient with HA-MRSA and a patient with CA-MRSA in order to avoid a genetic exchange between the strains.
- Inform the patients and provide them with the information in order to encourage empowerment.

Conclusion!

Managing a community MRSA outbreak is possible with the application of stringent basic measures. Raising the community's awareness is an unavoidable step. As much as possible, avoid antibiotic treatments when not necessary, as it will not increase antibiotic resistance too fast.

These are the present recommendations of infection prevention and control for the management of community-acquired MRSA. However, a follow-up is done and any new recommendations will be forwarded to the clinics and the concerned individuals. For any additional information, you can call me; it will be my pleasure to talk to you.

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