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PATIENTS & PRACTICE

# Are you ready for the superbug?

## *Canada's infectious disease experts draft CA-MRSA guidelines*

BY PETER WOODFORD

If you expect to keep seeing the run-of-the-mill *Staphylococcus aureus* infections you're used to, you may be in for a rude awakening. The drug-resistant version of the bacteria (MRSA) has broken out of the hospital and is spreading through our communities. If the 'superbugs' behave as they did south of the border, they could soon take over the lion's share of infections across the nation.

"This is the pattern that has been observed over the last two to three years in several US centres such as Houston, where the rate of methicillin resistance among community-associated isolates of *S aureus* (CA-MRSA) has reached a staggering 75%," says Dr Michael Hawkes of the Toronto Hospital for Sick Children's Department of Infectious Diseases. And there's every indication we're headed in the same direction.

**Prime targets**

**These populations are at greater risk of acquiring CA-MRSA**

-Children under two
-Minorities, eg Natives/Aboriginals and African-Americans
-Contact sports athletes
-Men who have sex with men
-Military personnel
-Prisoners
-Veterinarians, pet owners and pig farmers

*Source: Guidelines for the prevention and management of community-associated methicillin-resistant* Staphylococcus aureus*: A perspective*

"Here in Ontario, for instance, the rates are for the most part unknown, but the prevalence is thought to be rising as in most sectors of the country," says Dr Hawkes. British Columbia is currently seen as the epicentre of the nation's superbug problem, but rates will likely rise even more in the near future, warns Dr Hawkes. That's why he and several other authors of a new set of caregiver guidelines for CA-MRSA (available online at www.ccar-ccra.com/english/ca-mrsa.shtml) contributed to a January 2 *CMAJ* commentary urging Canada's doctors to act on these recommendations — pronto.

**BE PREPARED**

Canadian infectious disease specialists have had their eye on CA-MRSA for some time (see our original report, "Community-acquired staph on rampage", April 15 2006, Vol 3, No 7, page 1). The practice guidelines, Dr Hawkes says, have come at a critical time. "Canada is arguably poised at the brink of an epidemic of MRSA in its communities," he says, citing the explosive growth of CA-MRSA infections in several US cities as a sign of things to come.

The full guidelines originally appeared a few months ago in the *Canadian Journal of Infectious Diseases and Medical Microbiology* — not exactly a popular read among Canadian physicians, according to Dr John Conly, of the Foothills Medical Centre in Calgary. "A small piece in the *CMAJ*, which has a much greater readership, serves to highlight the full guidelines" and is necessary to prepare clinicians for the growing threat, he says (for a crash course, see "Your guide to treating CA-MRSA", below).

Dr Kunyan Zhang, an infectious diseases instructor at the University of Calgary and CA-MRSA expert, also feels that the recommendations were a long time in coming. "The guidelines are very timely and will be extremely important for helping to address the management and prevention of recently emerging CA-MRSA infections," he says.

**KNOW THE ENEMY**

Not everyone is convinced that the rising incidence of CA-MRSA will make life more difficult for physicians and their patients. Some American physicians working in areas where

**Your guide to treating CA-MRSA**

**Nip the superbug in the bud with these general rules of thumb from infectious disease expert Dr John Embil:**

CA-MRSA is already endemic think that news coverage of the infection is a tad overblown. Texan internist Dr Chris Rangel, for one, doesn't buy the 'superbug' hype. He reminds us in his medical blog that even good ol' methicillin-sensitive *Staph aureus* (MSSA) is still plenty deadly if inadequately treated and that there are several very effective treatments for CA-MRSA. "There's little current evidence that CA-MRSA is more virulent than MSSA," he notes.

Dr Zhang disagrees. He believes the drug-resistant form of *S aureus* very much lives up to its nickname. "I strongly agree with this term superbug.' It's useful to emphasize its clinical importance and potential for significant impact on human health," he says.

- Incision and drainage of abscesses is of critical importance as it will relieve pain and expedite resolution of the infection.
- Thankfully, CA-MRSA is susceptible to agents such as trimethoprim sulfamethoxazole (TMP/SMX), doxycycline, clindamycin and quinolones — traditional anti-staphylococcal antibiotics like cloxacillin and cephalexin will not work.
- Use of an agent such as TMP/SMX 1 double strength tablet *po bid* (for adults) for 10-14 days should be sufficient. However, if group A streptococcus is speculated to be involved in the infection, an agent such as clindamycin with improved antistreptococcal activity may be a superior choice.

See Dr Embil's accompanying editorial on page 20

CA-MRSA strains are genetically distinct from the traditional hospital strains, have different antibiotic susceptibility patterns and target different populations (see "Prime targets" top), Dr Hawkes explains. Furthermore, serious and sometimes life-threatening infections due to CA-MRSA have been described. "Authors have called CA-MRSA an 'old foe with new fangs,'" he remarks. "The widespread dissemination of MRSA clones in the community signals their adaptation to survive and spread outside the hospital setting."

For those of you who haven't yet seen cases of CA-MRSA, Dr Conly has only two words: be prepared. Dr Hawkes concurs. "Awareness of CA-MRSA among frontline physicians, public health practitioners and other healthcare workers is important for the appropriate treatment, prevention and control of CA-MRSA," he says. "This is the reason for publishing and promoting awareness of the national guidelines."