



Letter to Editor/Carta ao Editor

Antibiotic sensitivity pattern of community associated-methicillin resistant *Staphylococcus aureus*

Padrão de sensibilidade a antibióticos associados de *Staphylococcus aureus* da comunidade resistentes à metilicina

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Dear Editor:

This is with reference to an article published in your journal titled *Community prevalence of Thmethicillin and vancomycin resistant Staphylococcus aureus in and around Bangalore, southern India* in Volume 44, number 3, May/June, 2011.

The study has confirmed our clinical impression about the rising prevalence of methicillin resistant *Staphylococcus aureus* (MRSA) infection in the community. Since the authors did not study the antibiotic profile of the MRSA strains in this study, we would like to share the results of our study about the antibiotic sensitivity of community associated-methicillin resistant *Staphylococcus aureus* (CA-MRSA) strains in the same geographical area of Southern India where the above-mentioned study was conducted. The combined results of the two studies give a broader picture of the fast emerging problem of MRSA in our population¹.

Community associated-methicillin resistant *Staphylococcus aureus* infections are an emerging problem in India and many parts of the world. These infections originate in communities as opposed to hospital associated methicillin resistant *Staphylococcus aureus* (HA-MRSA). Due to its changing epidemiology, CA-MRSA may become a serious problem for the clinicians in the near future¹.

We studied the clinical samples from 60 patients who presented to surgery Out Patient Department (OPD) for various ailments and in whom MRSA infection was newly identified in the microbiology laboratory and who fulfilled the inclusion and exclusion criteria for CA-MRSA.

Antibiotic sensitivity pattern of these MRSA was studied using modified Kirby Bauers disc diffusion method. Antibiotics used were amoxyclav, gentamicin, netilmicin, erythromycin, trimethoprim+sulfamethoxazole, ciprofloxacin, clindamycin, linezolid and vancomycin. Vancomycin and linezolid resistant strains were further subjected to minimum inhibitory concentration (MIC) detection.

The CA-MRSA isolates were susceptible to various classes of antibiotics. High degree of susceptibility was shown to vancomycin (96.7%), linezolid (96.7%), and clindamycin (93.3%). The susceptibility to vancomycin and linezolid was found to be 100% by MIC detection. This is consistent with the previous findings of 100%

susceptibility to vancomycin among CA-MRSA strains by Huang et al.², Wen-Tsung Lo et al.³ and Conly and Johnston⁴. Clindamycin susceptibility was reported to be 89% by Wylie et al.⁵ and 96% by Huang et al.², which is similar to the findings of our study (93.3%).

Erythromycin susceptibility of CA-MRSA strains was 51.7%. In a study done by Wylie et al.⁵, erythromycin susceptibility was 40% while it was 44% in the study done by Naimi et al.⁶. This is in contrast to the 7% susceptibility noted by Huang et al.².

In our study, susceptibility to ciprofloxacin was 18.3%, which is quite low as compared to 79% noted by Naimi et al.⁶, 88% observed by Wylie et al.⁵ and 53% seen by Huang et al.².

Gentamicin susceptibility was seen in 75% strains, which is low as compared to 87% observed in a study conducted in Manitoba, Canada⁵ and 94% seen in Minnesota⁶. Huang et al.² reported 100% susceptibility to gentamicin. Susceptibility to netilmicin was 90%, which is higher compared to gentamicin (75%).

A large difference was noted in the susceptibility to trimethoprim-sulfamethoxazole (cotrimoxazole) by us compared to studies done elsewhere. In our study only, 31.7% CA-MRSA strains were sensitive to cotrimoxazole while various other studies have noted susceptibility ranging between 90-100%^{2,5,6}.

Overall, a high proportion of resistance was found among CA-MRSA isolates, suggesting that the face of CA-MRSA has changed in both epidemiological and microbiological features. This calls for the formulation of specific treatment guidelines to prevent emergence of resistance to currently used drugs.

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