

## Case Reports

# Infant with community acquired methicillin resistant *staphylococcus aureus*

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## Introduction

Methicillin resistant *staphylococcus aureus* (MRSA) began in early 1970s<sup>1</sup> as a strain isolated within hospitals, but towards the end of 1990, community acquired MRSA (CA-MRSA) has emerged and become a major health problem in most countries. To diagnose a strain as CA-MRSA the patient should not have a recent hospitalisation, recent indwelling catheter or any other device or recent surgery within the past year. On the other hand CA-MRSA should have an antibiotic sensitivity profile sensitive to most antibiotics in contrast to the profile of health care associated MRSA (HA-MRSA). A case of CA-MRSA has not been documented from Sri Lanka up till now; so we are reporting an infant, infected with CA-MRSA who presented to us with fever and a typical urticarial rash.

## Case report

A nine month old baby girl (first child of non-consanguineous healthy parents without a significant illness in the past), presented to us with fever and vomiting for two days followed by an erythematous urticarial rash. On admission, the baby was febrile with a palpable rash over the upper chest and swelling of the right shoulder region with restricted movements of the right arm. She was managed as a case of simple urticaria initially. High fever and vomiting continued with swelling spreading down the right arm.

Despite the rapid progression of the swelling, circulation of the limb was maintained, which was also confirmed by the vascular surgeon. At 36 hours, as high fever continued and the child had coffee ground vomiting, she was treated as for septicaemia with intravenous (IV) ampicillin and cefotaxime after taking a blood sample for culture. At that time, swelling on the right shoulder was confirmed to be a subcutaneous abscess for which incision and drainage (I & D) was done promptly removing a substantial amount of pus. By this time the initial blood counts which were not significant had changed to neutrophil leucocytosis with toxic granulation and high C-

reactive protein levels. *Staphylococcus aureus* was isolated from the first blood culture, and it was confirmed to be MRSA on day four. According to the antibiotic sensitivity profile IV vancomycin was started without delay. Towards day seven the child deteriorated further in spite of the continuous care given, and passed away the following morning due to severe septicaemia. This child had not been hospitalised recently and didn't have any family member who had been hospitalised or had undergone any surgical procedure.

## Discussion

There are several factors which predispose to CA-MRSA infection such as over crowding, skin to skin contact, compromised skin (e.g. chronic eczema), when in contact with contaminated surfaces. Sportsmen<sup>2</sup>, day-care attendees, military recruits and prisoners are at a higher risk due to the large numbers of people in a relatively restricted area.

Affected sites include skin and soft tissue followed by urinary tract and sinuses. Incidence of severe invasive disease such as septicaemia, osteomyelitis<sup>3</sup>, septic arthritis and pneumonia<sup>4</sup> were reported to be very low.

Incision & drainage is the most effective initial treatment<sup>5</sup>, draining pus as much as possible with frequent culturing in order to find the specific antibiotic. If the prevalence of CA-MRSA is low, initial choice of antibiotics need not be MRSA specific. The antibiotics should be MRSA specific if the response is poor after 48 hours in any suspected sepsis. Vancomycin, gentamicin, rifampicin, trimethoprim-sulfamethoxazole, clindamycin and doxycycline are the preferred antibiotics.

Prevention strategies<sup>6,7</sup> should aim at screening for colonization, assessing the prevalence of MRSA within the health care facility and community and improving hygiene of the hospital setup.

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