EPIDEMIOLOGY, CLINICAL CHARACTERISTICS AND TREATMENT OUTCOMES OF HEALTHCARE-ASSOCIATED METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS BLOODSTREAM INFECTIONS AT CHIANG MAI UNIVERSITY HOSPITAL: A RETROSPECTIVE STUDY

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Abstract. The prevalence of methicillin-resistant Staphylococcus aureus (MRSA) varies widely by region and healthcare setting. The prevalence of MRSA among S. aureus bloodstream infections increased from 23% in 2007 to 43% in 2011 at our hospital. We conducted this retrospective study among patients with MRSA to determine mortality rate of MRSA bloodstream infections (BSIs) and the risk factors for death in those patients at Chiang Mai University Hospital from January 1, 2007 to December 31, 2011. One hundred seventy-nine patients with 184 episodes of MRSA BSIs were enrolled. Ninety-eight patients (54.8%) were male and the mean age was 53.4±25.3 years. The median length of time from admission to diagnosis was 27.5 days (IQR 15, 43.5). One-hundred six patients had BSI with other sites of infection: pneumonia (78 episodes, 42.4%), skin and soft tissue infections (15 episodes, 8.2%), urinary tract infections (13 episodes, 7.1%) and infective endocarditis (4 episodes, 2.2%). The mortality rate was 53.1% (95 patients). Risk factors for death on multivariate analysis were: concurrent pulmonary infection (OR 2.65; 95% CI: 1.27-5.51, p=0.009), having a central venous catheter (OR 8.85; 95% CI: 2.31-33.88, p=0.001), having a urinary catheter (OR 8.52; 95% CI: 2.60-27.89, p<0.001) and having a prothrombin time longer than 1.5 times the upper limit of normal (OR 3.85; 95% CI: 1.68-8.81, p=0.001). MRSA bloodstream infections caused significant mortality particularly among those patients with concurrent pulmonary infections.

Keywords: healthcare-associated infection, methicillin-resistant Staphylococcus aureus, bloodstream infections, epidemiology, outcome