



“We aim to describe the microbiology of confirmed VAABSI and evaluate the choice of empiric antibiotics, and whether they are prescribed in concordance with the in-house antibiotic guidelines” Loo et al (2015).

Reference:

Loo, L.W., Liew, Y.X., Choong, H.L., Tan, A.L. and Chlebicki, P. (2015) Microbiology and audit of vascular access-associated bloodstream infections in multi-ethnic Asian hemodialysis patients in a tertiary hospital. Infectious Diseases. February 9th. .

Microbiology and audit of vascular access-associated bloodstream infections

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Abstract:

Background: In view of high mortality and morbidity rates associated with vascular access-associated bloodstream infection (VAABSI) in hemodialysis patients, clinical practice guidelines recommend empiric antibiotic therapy for suspected vascular access-related infections. We aim to describe the microbiology of confirmed VAABSI and evaluate the choice of empiric antibiotics, and whether they are prescribed in concordance with the in-house antibiotic guidelines.

Methods: This was a single-center, retrospective, observational study conducted in a tertiary hospital. All adult hemodialysis patients aged 21 years and above who had confirmed VAABSI with positive blood culture results dated from January 2011 to June 2012 were recruited. Relevant information was retrieved electronically from the hospital patient online database, SCM 5.5 Sunrise Enterprise Gateway.

Results: A total of 144 episodes of VAABSI were recorded from 118 patients. Methicillin-resistant *Staphylococcus aureus* (MRSA) and methicillin-sensitive *S. aureus* (MSSA) accounted for 64.2% (68/106) of the gram-positive infections. Gram-negative organisms grew in 26.4% (38/144) of blood cultures and *Pseudomonas aeruginosa* was the most common organism isolated. The recommended in-house guideline was used as empiric therapy in 24 episodes of VAABSI (16.7%). Five patients died due to VAABSI and none were prescribed antibiotics in concordance with in-house guidelines.

Conclusions: Empiric antibiotics against MSSA and MRSA, as well as gram-negative organisms, especially *P. aeruginosa*, should be used in patients with suspected vascular access-related infections in our institution. Monitoring of microbiological profile is necessary to guide timely administration of appropriate empiric antibiotics. Further studies are necessary to evaluate the relationship between adherence to in-house guidelines and patients' outcomes.

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