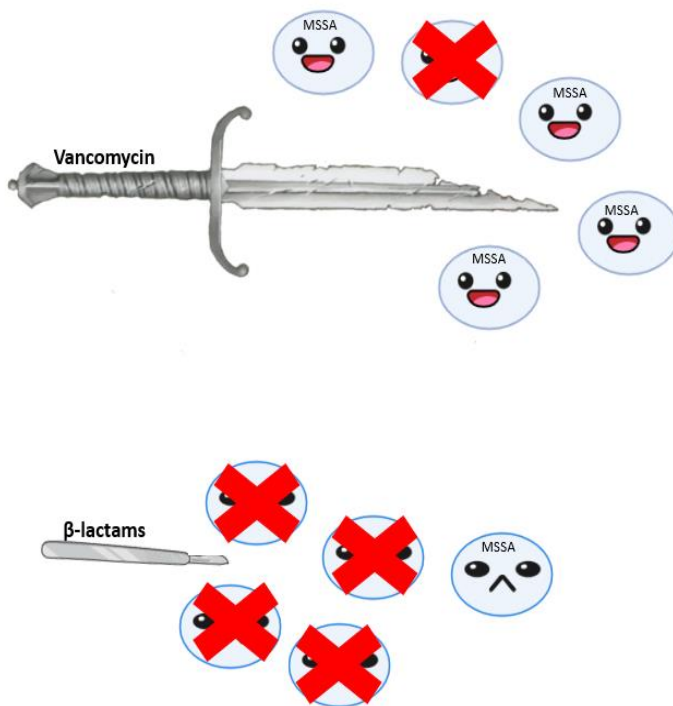


Vancomycin for Severe MSSA Infections: De-escalating Spectrum and Escalating Efficacy

Severe *Staphylococcus aureus* infections are associated with high rates of morbidity and mortality.¹ Vancomycin is widely used empirically in patients with suspected severe *S. aureus* infections since it has activity against both methicillin-resistant *S. aureus* (MRSA) and methicillin-susceptible *S. aureus* (MSSA).¹ Likewise, providers may continue vancomycin once MSSA has been identified. However, spectrum does not always predict efficacy.

Vancomycin vs Beta-Lactams for Severe MSSA Infections



Multiple retrospective cohort studies have examined the effectiveness of vancomycin and β -lactams for MSSA bacteremia. In one study that included 84 patients with MSSA bacteremia, vancomycin was associated with a significantly higher mortality rate (37%) as compared to β -lactams (11%) for definite therapy.¹

More recently, in a large retrospective cohort study with more than 5,000 patients with MSSA bacteremia, patients who received either cefazolin or an antistaphylococcal penicillin as **definitive** therapy (e.g. nafcillin, oxacillin) had reduced odds of mortality (~43%) compared to those receiving vancomycin.² Mortality rate was similar between patients who received **empiric** vancomycin and a beta-lactams.²

While vancomycin is considered a “big gun” antibiotic (or sword in the image), beta-lactam antibiotics are more precise and better at killing MSSA.

Key Takeaway: Vancomycin is inferior to nafcillin, oxacillin, and cefazolin in the definitive treatment of severe MSSA infections. Empiric vancomycin monotherapy to cover for both MSSA and MRSA in infections where *S. aureus* is the most likely pathogen appears acceptable. After identifying MSSA, de-escalating spectrum will escalate efficacy.

References:

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