Vancomycin Susceptibility Testing on isolates of S. Aureus

Contraindication of vancomycin susceptibility testing by disk diffusion method

Questions:

Your infectious disease clinician informs you that a dialysis patient with nosocomial bacteremia due to MRSA has been referred to your hospital, and you have been told that the isolate is susceptible to vancomycin by a disk diffusion test, but the patient is not doing well on vancomycin. What action does your laboratory take?

No further testing is necessary
Repeat the disk diffusion test for vancomycin
Perform a vancomycin MIC on the isolate
Perform an oxacillin salt agar screening test on the isolate
Amend the result to vancomycin resistant

Discussion:

The following specific information for isolates of Salmonella and Shigella is provided in the Clinical and Laboratory Standards Institute (CLSI) guidelines:

MIC tests should be performed to determine the susceptibility of all isolates of staphylococci to vancomycin. The disk test does not differentiate vancomycin-susceptible isolates of S. aureus from vancomycin-intermediate isolates, nor does the test differentiate among vancomycin-susceptible, intermediate, and resistant isolates of coagulase-negative staphylococci, all of which will give similar size zones of inhibition.¹

Disk testing is not reliable for testing vancomycin. ²

Answers:

Perform a vancomycin MIC on the isolate

¹ CLSI M100-S19, Table 2C (16), Pg 56
² CLSI M100-S19, Table 2C (19), Pg 56