a trchealthcare brand
Pharmacist's Letter
Hospital

Know When to Expand Empiric Treatment for HAP/VAP

We're getting questions about how to empirically treat hospital-acquired (HAP) and ventilator-associated pneumonia (VAP).

Generally start with a single broad-spectrum agent (cefepime, etc) to cover *Pseudomonas* and methicillin-sensitive *Staph aureus*.

Use high doses, such as cefepime 2 g IV every 8 hours...or extended infusions, such as piperacillin/tazobactam 3.375 g to 4.5 g IV every 8 hours, with each dose infused over 4 hours.

The challenging part is knowing when to expand initial empiric coverage. Ensure your protocol incorporates your local antibiogram and patient risks...while avoiding inappropriate antibiotic use.

For example, don't automatically include anaerobic coverage if a patient has HAP or VAP after suspected aspiration. It's still more likely to be typical nosocomial organisms than anaerobes.

When should empiric MRSA coverage be included? Consider vancomycin or linezolid if your MRSA rate is above 10% to 20% with VAP or 20% with HAP...or if the patient got IV antibiotics in the past 90 days.

For VAP, cast a slightly wider net. Also think of MRSA coverage for septic shock...or for certain risks before VAP onset, such as acute dialysis or hospitalization for at least 5 days.

Use an MRSA nasal PCR test to guide de-escalation. For example, consider discontinuing empiric MRSA coverage when the test is negative...if other cultures also remain negative.

When should you double-cover for *Pseudomonas*? Consider this for HAP or VAP in any patient with increased risk of resistance...structural lung disease (cystic fibrosis, etc) or IV antibiotics within 90 days.

Otherwise for HAP, generally save double coverage for patients with septic shock or whose pneumonia leads to ventilatory support.

For VAP, consider double coverage if your hospital antibiogram shows at least 10% resistance to the monotherapy antibiotic options.

Also consider double-covering patients with VAP who have additional risks...similar to the criteria used for expanding MRSA coverage.

Get our resource, *Hospital-Acquired and Ventilator-Associated Pneumonia*, for the role of procalcitonin, treatment duration, and more.

Key References:

-Clin Infect Dis. 2016 Sep 1;63(5):e61-e111
-N Engl J Med. 2019 Feb 14;380(7):651-663
-Ann Pharmacother. 2022 Aug 29:10600280221121144

Hospital Pharmacist's Letter. April 2023, No. 390423