Kentucky Antimicrobial Stewardship Innovation Consortium

Educational Pearl

The Pneumonia Formerly Known as HCAP

Healthcare associated pneumonia (HCAP) was first coined in the 2005 Infectious Diseases Society of America (IDSA) and American Thoracic Society (ATS) nosocomial pneumonia guidelines to categorize patients thought to be at high risk for pneumonia due to resistant organisms from recent healthcare exposure (e.g. dialysis, home wound care, recent hospitalization, etc.). **Routine** anti-MRSA and anti-pseudomonal antibiotics were recommended empirically for all patients with HCAP.[1] More recent IDSA/ATS pneumonia guidelines recommend abandoning the HCAP category.[2,3] Why was HCAP dropped?

What were the issues with HCAP?

While patients with HCAP do have increased rates of pneumonia due to resistant organisms (e.g. MRSA, *P. aeruginosa*), regular CAP pathogens are still present in high frequencies (e.g. *S. pneumoniae*).[4] In one study, the positive predictive value of HCAP for a resistant pathogen was only 45.2%.[5] Mortality was not improved with guideline concordant HCAP antibiotic therapy.[6]

What has replaced HCAP?

In the 2019 IDSA/ATS CAP guidelines, empiric broad-spectrum antibiotics are recommended based on risk factors for resistant organisms **AND** severity of illness.[3] The approach is summarized in IDSA's CAP Clinical Pathway Figure 1 and Table 4.[7]

A key difference between this approach and the former HCAP approach is the inclusion of an **escalation** strategy in select patients. In patients with non-severe CAP with risk factors for resistant organisms, start regular empiric CAP antibiotics (e.g. β-lactam + macrolide), obtain cultures, and subsequently escalate to anti-MRSA or anti-pseudomonal only if cultures reveal a resistant pathogen.[3] By using a more nuanced approach to empiric antibiotics, optimal clinical outcomes can be achieved while balancing unnecessary broad-spectrum antibiotics.

Key Takeaway: Stop routinely prescribing empiric anti-MRSA and anti-pseudomonal antibiotics to all inpatients who have prior healthcare exposure. Many patients who previously would have been categorized with HCAP can be successfully treated with standard CAP antibiotic regimens.

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