Antibiotic Stewardship for Pneumonia

Why: To help our patients avoid unnecessary days of treatment and nights in the hospital (and fend off antibiotic-resistant bugs).

Who: You! (the interns, residents, and NPs)

What: Concrete antibiotic guidelines, a **SmartPhrase** for progress notes, and daily discussion during attending rounds.

.PNATIMEOUT

CAP: Signs, symptoms, and radiologic evidence of PNA in the first 48 hours of admission
- *Includes patients with recent healthcare system contact (formerly called HCAP)*

HAP / VAP: In an admitted patient, new or progressive radiologic infiltrate **AND** at least one of the following: fever, purulent sputum, leukocytosis, or decreased oxygenation

ID-Recommended Treatment Regimens

(narrow based on C&S if/when available)

CAP

Preferred

Ceftriaxone 2g IV Q24

+

Azithromycin 500mg IV/PO (day 1) → 250mg IV/PO (days 2-5)

Switch all to PO when clinically appropriate:

Amoxicillin 500mg PO TID or 875mg PO BID (1g PO TID if concern for resistant *S. pneumo**)

+

Azithromycin 500mg PO (day 1) → 250mg PO (days 2-5)

If severe beta-lactam allergy:
Levofloxacin 750mg IV/PO daily

Total Course: 5 days

*Elderly, on antibiotics in past 3-6 months, immuno-suppressed, comorbidities, around a child in daycare

HAP / VAP

Early (stay <5d) or **Non-Severe** Pneumonia

Ceftriaxone 2g IV Q24
or if allergic:
Levofloxacin 750mg IV/PO Q24

+ / -

If any MRSA history:
Vancomycin 15 mg/kg IV Q12

Severe PNA or **High-Risk** Patient*

Cefepime 2g IV Q12†

+

Vancomycin 15 mg/kg IV Q12

**poor functional status and recent LTACH / SNF / hospital stay*

+ / -

If ED admit w/ healthcare exposure:
Azithromycin 500mg IV Q24

Total Course: 5 days (Early / Non-Severe) | **Total Course: 5 - 7 days** (Severe / High-Risk)

† Change to Q8 if high risk for *Pseudomonas*, and substitute imipenem 500mg IV Q6 if history of ESBL.

Exceptions:
- Alternative pathogen-specific recs (e.g. MRSA / *S. aureus*, *Legionella*, *Pseudomonas,* other uncommons)
- Extra-pulmonary infections, necrotizing pneumonias, empyemas, or lung abscesses
- Specific guidance for witnessed aspiration events

Notes:
- Total course = inpatient + outpatient treatment
- Narrow antibiotics based on cultures when possible
- Consider ID consult for critically ill or immuno-compromised patients, MRSA, or if no improvement
- Adjust dosing appropriately for pts with reduced CrCl

References:
IDSA/ATS Guidelines for CAP (*Clin Infect Dis*, 2007) and HAP/VAP (*Clin Infect Dis,* 2016); Mount Sinai Infection Control internal guidelines

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