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ePoster Viewing

Pharmacoepidemiology, improved prescribing and antibiotic stewardship

Skin infections in the Emergency Department: opportunities for antimicrobial stewardship

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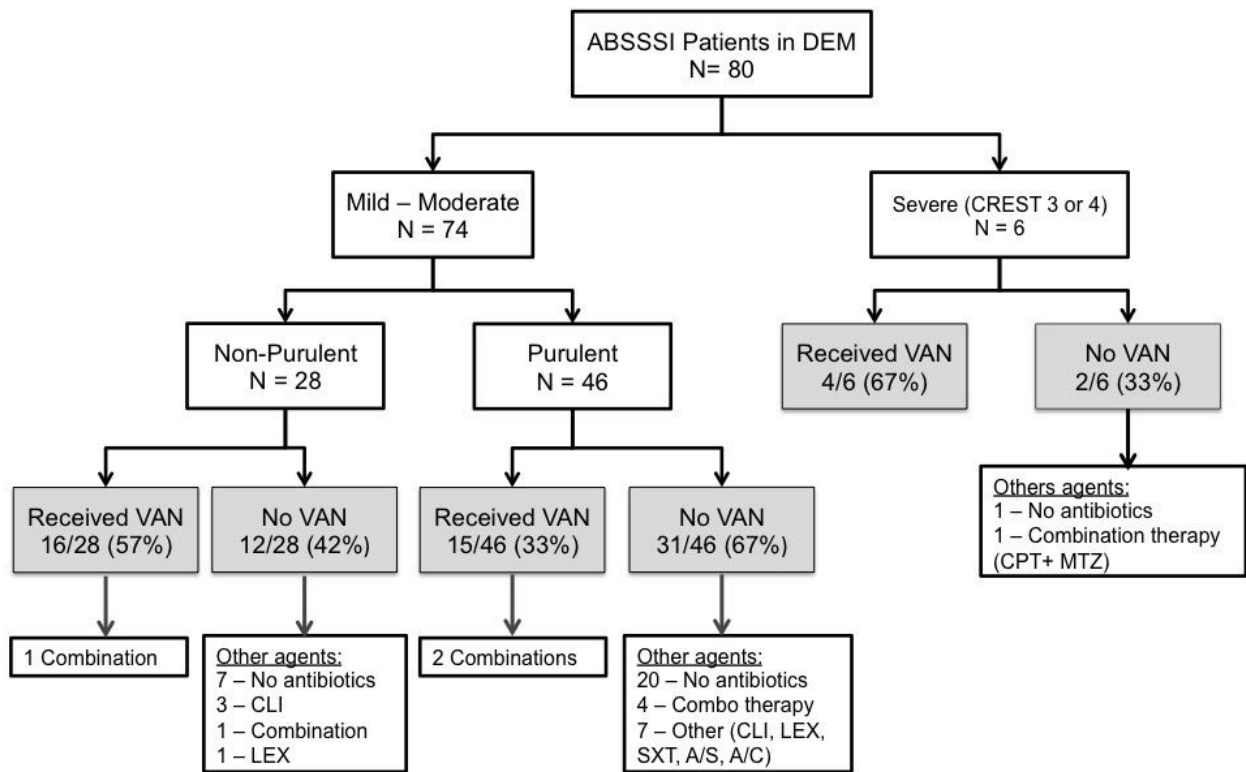
Background: Vancomycin is a mainstay of acute bacterial skin and skin structure infection (ABSSSI) therapy for methicillin-resistant *Staphylococcus aureus* (MRSA), but is not necessary in cases with low risk or when other medications including clindamycin and sulfamethoxazole-trimethoprim can be considered. The objective of this study was to characterize use of vancomycin for ABSSSI and identify opportunities for antimicrobial stewardship.

Methods/Materials: This was a cross sectional study that included patients seen at an emergency department (ED) from January 2015 to June 2015 who presented with clinical signs and symptoms of ABSSSI. The primary endpoint of interest was appropriate use of vancomycin based on the Infectious Diseases Society of America (IDSA) national guideline criteria. Other variables collected included demographics, comorbidities, microbiology, antimicrobial therapy and 30-day readmission rates.

Results: Eighty patients were included: 37 (46%) with abscess, 30 (38%) with cellulitis and 13 (16%) with both; 39 male patients (49%) and 41 females (51%). The most common comorbid conditions were diabetes (25%), renal disease (13%) and injection drug use 9 (11%). Twenty-four (30%) were hospitalized within the past 90 days and 7 (9%) received systemic antibiotics within the past 90 days. Six patients were categorized as having a severe ABSSSI (CREST class 3 or 4); among the remaining 74 mild-to-moderate infections, 46 (62%) were purulent, 28 (38%) were nonpurulent. Thirty-six (45%) patients had cultures obtained from skin or blood; organisms isolated were methicillin-susceptible *Staphylococcus aureus* (MSSA) 5 (6%), MRSA 5 (6%), *Streptococcus spp.* 9 (11%), *Candida spp.* 2 (3%), anaerobes 3 (9%) and other 6 (9%). Thirty-five (44%) received vancomycin and 57 received alternative or no antimicrobial therapy. Among patients who received vancomycin, only 4 (11%) had infections with severity to warrant intravenous MRSA coverage according to IDSA guidelines.

Conclusions: The majority of ABSSSI encountered in the ED are mild to moderate in severity. We identified opportunities for improvement in antimicrobial management, including both overuse and underuse of vancomycin. Future antimicrobial stewardship interventions targeting MRSA risk assessment and appropriate selection of antimicrobials.

Figure 1: Appropriateness of antibiotics based on severity and purulence



Key: A/S: ampicillin/sulbactam; A/C: amoxicillin/clavulanate; CLI: clindamycin; CEP: cefepime; CPT: ceftaroline; ETP: ertapenem; LEX: cephalexin; MTZ: metronidazole; SXT: trimethoprim/sulfamethoxazole; VAN: vancomycin