INTRODUCTION

Acute bacterial skin infections account for >12 million infections annually in the US. The cause of acute skin and skin structure infections (SSSI) has become increasingly complex and difficult to predict. Multiple factors have contributed to this rise in complexity, including hospitalization, more frequent multidrug resistant pathogens, and emergence of highly resistant strains. The availability of empiric antibiotic therapy has decreased overall, with overprescribing of empirical therapy and the use of broad-spectrum empiric therapeutic regimens to cover multiple and potential antibiotic resistant organisms. This has put pressure on healthcare providers to consider alternatives for empiric antimicrobial therapy.

METHODS

We analyzed the first positive bacterial skin/wound isolate from consecutive patients treated with empiric antibiotic therapy and discharged within the above defined time frame. Patients were stratified into 4 groups: GN, GN-positive (GP) and mixed GN/GP bacteriologic pathogens. We categorized all SSSI as abscess, cellulitis, chronic ulcer, wound, and other or multiple infection categories (ICD10 code for more than one infection type). Among the 9,953 admissions who met the inclusion criteria, a distribution across several types of SSSI and source of causative pathogen. Methicillin-susceptible Staphylococcus aureus (MSSA) predominated, more frequently encountered in healthcare associated episodes. Enterobacteriaceae species account >25% of infections, either single or polymicrobial with GN pathogens occurring almost 40% of patients hospitalized with SSSI. Along with resistant GP species, the risk of these organisms needs to be factored into decisions about empiric regimens for SSSI.

RESULTS

Skin infections were reported in 51,903 patients in whom 17,851 (34%) had a skin infection culture taken of whom 11,911 yielded a positive isolate (68%) for SSSI. Of the 49,152 culture results that were collected in the admission period. See Figure 1, 83.6% (n=9,953) of 11,911 culture positive admissions were started on empiric antimicrobial therapy.

CONCLUSION

• GN pathogens occur almost 40% of patients hospitalized with SSSI. Along with resistant GP species, the risk for these organisms needs to be factored into decisions about empiric regimens for SSSI.

REFERENCES


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