Complicated Skin and Soft-tissue Infections – Consider Gram-negative Pathogens

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Most infections involving the skin and adjacent soft-tissue structures are caused by gram-positive pathogens, mainly *Staphylococcus aureus* and group A streptococci. Empiric antibiotic treatment therefore puts a heavy emphasis on a good activity of selected antibiotics against these pathogens. However, typical regimens include some coverage against gram-negative bacteria as well. This is adequate as a sizable proportion of these infections is caused by enterobacteriaceae. The study of Chang et al. [1] in this issue of INFECTION illustrates this. The authors from Taiwan report that *Klebsiella pneumoniae* (16.2% of all cases) and *Escherichia coli* (3.4%) were responsible for almost one-fifth of the infections. Male sex, liver cirrhosis, malignancy and alcoholism were associated with infections by gram-negative pathogens.

The distribution of pathogens in Chang's study is quite different from distributions described in another study for three other continents, namely North America, Latin America, and Europe [2]. In Europe, *E. coli* accounted for 10.8% and *Klebsiella* sp. for 4.4% of all skin and soft-tissue infections. The corresponding rates were 7.2% and 4.2% for North America, and 14.0% and 7.0% for Latin America. Despite these differences, the studies show that gram-negative bacteria play an important role

as causative agents of skin and soft-tissue infections in many areas of the world. With the observed increase in the rate of bacteria that are capable to express beta-lactamases with extended spectrum, clinical cure and the selection of an active antibiotic for empiric treatment might be more difficult to achieve in the future

References

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