



Weighing the Benefits of Antibiotics for Cellulitis

One-third of 106 patients hospitalized for cellulitis with or without cutaneous abscess were classified as “clinical failures” in a study by the University of California (with locations in Sacramento, California, and San Francisco, California) and University of the Pacific Thomas J. Long School of Pharmacy and Health Sciences in Stockton, California. The clinical failures comprised 13 rehospitalizations, 10 cases of treatment failure (ie, the patient needed repeat incisions, drainage, or changes in antibiotic therapy), 8 emergency department visits, 2 recurrences, and 1 death.

The independent risk factors of clinical failure had mainly to do with the antibiotic treatment: inadequate empiric antibiotic therapy, too-low dosing of antibiotics on discharge,

and recent antimicrobial therapy. Of the patients for whom initial therapy failed and who were treated with either clindamycin or trimethoprim/sulfamethoxazole (TMP/SMX), 3 were later found to have strains of methicillin-resistant *Staphylococcus aureus* (MRSA), which were resistant to those antibiotics.

A fourth risk factor was overweight. Patients who weighed more than 100 kg and had a body mass index (BMI) of 40 or higher had a significant risk of clinical failure. The researchers point out that it has been increasingly recognized that excess weight can affect pharmacokinetics and pharmacodynamics of many drugs, including antimicrobial drugs. TMP/SMX and clindamycin were the 2 most commonly prescribed oral antibiotics at discharge. Morbid obesity was significantly associated

with clinical failure in patients receiving monotherapy with either drug. Vancomycin plasma trough concentrations were significantly lower—in fact, subtherapeutic—in obese patients (9.1 mg/L vs 15.6 mg/L in nonobese patients). Rather than a “one-size-fits-all” strategy, the authors advise weight-based dosing and considering higher doses of TMP/SMX and clindamycin when treating cellulitis/cutaneous abscess in larger patients.

Clinical failure also may be partially explained, the researchers add, by the recurrent nature of cellulitis/cutaneous abscess, especially in patients with known risk factors for recurrent skin and soft tissue infection, such as venous insufficiency, lymphedema, or chronic ulcers. ●

Source: Halilovic J, Heintz BH, Brown J. *J Infect.* 2012;65(2):128-134.