Abstract:

To determine predictors of serious bacterial infections in pediatric burn patients with fever (core temp ≥38.5°C). The authors conducted a retrospective review of medical records of pediatric (0-18 years) patients admitted to the Arizona Burn Center between 2008 and 2011 with greater than 5% TBSA and inpatient hospitalization for ≥72 hours. The study group comprised patients with a febrile episode during their inpatient stay. Serious bacterial infection (the primary outcome variable) was defined as: bacteremia, urinary tract infection, meningitis (blood, urine, or cerebrospinal fluid culture positive for a pathogen respectively), pneumonia, line, and wound infection. A generalized estimating equation analysis was done to predict the presence or absence of serious bacterial infection. Of 1082 pediatric burn patients hospitalized during the study period, 353 met the study eligibility criteria. A total of 108 patients (30.6%) had at least one fever episode (fever group). No difference in demographic characteristics was noted between the fever and no-fever groups; significant differences were observed for: third-degree TBSA, second-degree TBSA, total operating room visits, length of stay, Injury Severity Score, and death. A total of 47.2% of the patients had one or more episodes of fever with serious bacterial infection. In a generalized estimating equation predictive model, presence of a central line, second-, and third-degree TBSA were predictive of serious bacterial infection in burn patients with fever. In this study, individual
Presence of a central line was predictive of serious bacterial infection in burn patients. Clinical variables such as tachypnea and tachycardia were not predictive of serious bacterial infections, but the presence of a central line, and larger TBSA were significant predictors of serious bacterial infections. Younger age (P = .08) and ventilator support (P = .057) also approached significance as predictors of serious bacterial infections.