Hospital Associated and Ventilator Acquired Bacterial Pneumonia in Infants and Children

Methods

Introduction

- The Pediatric Trials Network and the Clinical Trials Transformation Initiative
- Children’s Hospital of Orange County
- Cincinnati Children’s Hospital
- David Geffen School of Medicine at UCLA
- Iowa Children’s Hospital
- Atlanta Institute for Medical Research
- Duke Clinical Research Institute
- Duke University

Results

- 800 children were enrolled.
- The median age was 1.3 years (interquartile range: 0.3, 7.2).
- HABP/VABP was diagnosed in 10% (82/800) overall, 10% (21/206) of infants <120 days old and 10% (61/594) of infants ≥120 days old.
- The duration of mechanical ventilation was longer and the use of inotropes, corticosteroids, and acid suppressing agents were more frequent in children who developed HABP/VABP (Table 1).
- On multivariable analysis, risk factors varied by age (Tables 2-4).
- Overall, 43% (133/328) of children receiving respiratory support who were started on an antibiotic would have met FDA criteria for inclusion in a clinical trial for HABP/VABP: 35% (34/96) of those <120 days of age and 46% (88/184) of those ≥120 days of age.

Conclusions

- Systematic prospective observation identified HABP/VABP in 10% of infants and children receiving respiratory support.
- Additional risk factors associated with HABP/VABP differed by age.
- 43% of pediatric patients needing antibiotics and receiving respiratory support could be eligible for an antibiotic clinical trial.