Outcomes Following Admission to Intensive Care for Asthma

PURPOSE OF THE STUDY. To describe the subsequent course of children who are admitted to an ICU for asthma.

STUDY POPULATION. All children with asthma aged 2–18 years admitted to the ICU at the Royal Children’s Hospital Melbourne between 1990 and 2004.

METHODS. Data were collected by reviewing medical records and through telephone interviews.

RESULTS. A total of 410 children were identified, with a mean duration of follow-up of 10.3 ± 4.6 years. Twelve patients (1.8%) subsequently died of asthma (5% of those who required ventilation at their index admission). Risk factors for mortality were multiple ICU admissions (adjusted odds ratio [aOR]: 5.0; 95% confidence interval [CI]: 1.3–19) and mechanical ventilation (aOR: 4.5; 95% CI: 1.3–15.7). Sixty-seven percent of patients were readmitted to the hospital for asthma at least once, with 17% readmitted to the ICU. Risk factors for ICU readmission were admission for asthma in the preceding year (aOR: 4.7; 95% CI: 2.4–9.3) and mechanical ventilation (aOR: 2.4; 95% CI: 1.0–5.3).

CONCLUSIONS. Admission to the ICU for asthma is a predictor of hospital readmission. Those who require ventilation are at significant risk of mortality.

REVIEWER COMMENTS. Although asthma mortality has declined to some extent in recent years, children continue to die of this disease. Most of these deaths are almost certainly preventable. Children who have required admission to the ICU and especially those who have required mechanical ventilation are at much higher risk and deserve close monitoring and follow-up in a specialty clinic.


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Adherence to Inhaled Corticosteroids: An Ancillary Study of the Childhood Asthma Management Program Clinical Trial

PURPOSE OF THE STUDY. To compare subjective and objective measurements of adherence to inhaled corticosteroids versus placebo and to determine if adherence to study medications modified treatment-related outcomes.

STUDY POPULATION. One hundred forty children aged 5 to 12 years who were diagnosed with mild or moderate asthma were enrolled from 3 of 8 sites from the Childhood Asthma Management Program (CAMP) study.

METHODS. This was a prospective study over a 4-year study period. The study population was categorized with mild or moderate asthma based on criteria established in the CAMP trial. Subjects were randomly assigned to receive either placebo, budesonide, or nedocromil twice daily over 4 years; those in the placebo and budesonide arms were included in this ancillary adherence report from 3 centers. Adherence measures were categorized as either self-reported or objective. Self-reported adherence consisted of daily diary entries by patient or caregiver that were reviewed at follow-up visits every 4 months. Objective adherence measures included counting the doses remaining in the Turbuhaler device (ie, doses dispensed).

RESULTS. Objective adherence measurements were significantly lower than self-reported adherence measurements. There was poor agreement between self-reported and objective measures of adherence, with 75% of participants demonstrating <80% adherence by objective measurements, whereas only 5.8% of self-reported adherence values were <80%. Self-reported adherence overestimated objective adherence measures by 30% (93.6% vs
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