Asthma

PATHOPHYSIOLOGY

INCREASED INCIDENCE OF ASTHMA-LIKE SYMPTOMS IN GIRLS WHO BECOME OVERWEIGHT OR OBSESE DURING THE SCHOOL YEARS


Purpose of the Study. Recent cross-sectional studies have shown an association between obesity and an increased risk of asthma, especially in females. These authors used data from the Tucson Children’s Respiratory Study to search for an increase in asthma in children who became overweight between 6 and 11 years of age.

Study Population. The participating children are a birth cohort enrolled between 1980 and 1984 and followed longitudinally. All are resident in the Tucson, Arizona, area.

Methods. Symptom questionnaires were completed by parents when the children were 6, 8, 11, and 13 years of age. Weight and height were measured at age 6 and 11. Home peak flow readings were gathered at age 11. Only those children providing peak flow measurements twice daily on at least 4 days over 1 week were included in the analysis. Spirometry including bronchodilator response was also obtained at age 11.

Results. Of the 426 patients, 114 (27%) received diphenhydramine during hospitalization and shared similar baseline characteristics including age, sex, delirium risk, and Mini-Mental State Examination scores compared with nonexposed patients. The diphenhydramine-exposed group was at an increased risk for any delirium symptoms (relative risk [RR]: 1.7; 95% confidence interval [CI]: 1.3–2.3) and for individual delirium symptoms, including inattention (RR: 3.0; 95% CI: 1.5–5.9), disorganized speech (RR: 5.5; 95% CI: 1.0–29.8), and altered consciousness (RR: 3.1; 95% CI: 1.6–6.1). Exposed patients also had increased risk for urinary catheter placement (RR: 2.5; 95% CI: 1.0–6.0) and longer median length of stay (7 vs 6 days; \( P = .009 \)). A dose-response relationship was demonstrated for most adverse outcomes. Overall, 24% of diphenhydramine doses were administered inappropriately.

Conclusions. Diphenhydramine administration in older hospitalized patients is associated with an increased risk of cognitive decline and other adverse effects with a dose-response relationship. Careful review of its use is necessary in this vulnerable population.

Reviewer’s Comments. Adverse reactions were mainly cognitive or related to anticholinergic effects. Most of the patients (2/3) received diphenhydramine as a routine sleep aid; another 20% prophylactically before blood transfusion (in the absence of a previous transfusion reaction). Neither would seem to be legitimate indications. It probably goes without saying that the elderly (and very young) are most vulnerable to medication side effects. So remember: be careful and don’t poison granny! This study also makes a strong case for the use of nonsedating antihistamines in this age group.

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BRAIN MASSES INDEX AND ASTHMA IN THE MILITARY POPULATION OF THE NORTHWESTERN UNITED STATES


Purpose of the Study. To examine the association between asthma and obesity among adults.

Study Population. Enrollees in a military managed care program, ages 17 to 96 years.

Methods. The investigators obtained data from 45 743 enrollment questionnaires that were completed between January 1997 and December 1998. After excluding those with emphysema/chronic bronchitis or implantable or missing body mass index (BMI) data, case-control analysis was performed on 2577 asthma cases and 36 347 controls. Because asthma was self-reported, the investigators selected random samples of 1000 cases and 1000 controls for verification. Status of the subject as a case or a control was verified by cross-referencing the cases and controls with medication profiles obtained from a computerized military health record system. Univariate analysis and multiple logistic regression was performed on both the larger case-control group and the verified case-control sample.

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Increased Incidence of Asthma-Like Symptoms in Girls Who Become Overweight or Obese During the School Years
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Pediatrics 2002;110:443

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