records. Safety endpoints included measurement of growth, serum insulin-like growth factor–binding protein 3, cortisol, osteocalcin, and alkaline phosphatase. Clinical and safety outcomes were assessed before and after 6 months of treatment in both treatment and placebo groups.

Results. Mean wheezing episodes were 6.0 ± 1.9, 1.9 ± 1.9, and 2.8 ± 1.2 per patient for placebo, 100-µg fluticasone, and 250-µg fluticasone groups, respectively. Mean days of albuterol use were 24.3 ± 1.3, 6.5 ± 0.8, and 9.1 ± 0.8 for placebo, 100-µg fluticasone, and 250-µg fluticasone groups, respectively. There was a significant reduction in wheezing episodes and albuterol use in the 2 fluticasone groups compared with placebo (P < .01), but there were no significant differences between the 2 fluticasone groups. After treatment, there were no significant differences observed in serum cortisol, bone metabolism markers (insulin-like growth factor–binding protein 3, alkaline phosphatase, and osteocalcin), or growth among the groups.

Conclusions. The authors concluded that inhaled fluticasone (50 or 125 µg) given twice daily over a 6-month period improved asthmatic symptoms and had no significant adverse effects on growth, bone metabolism, or serum cortisol in children aged 7 to 24 months.

Reviewer’s Comments. This study suggests that the use of inhaled fluticasone in young children with recurrent wheezing and a positive family history is both safe and effective. In addition, the study is one of the few pieces of evidence that off-label use of inhaled steroid administered with a metered-dose inhaler with a holding chamber and mask is effective in chronic asthma in the very young (with the caveat of monthly review of technique). The safety findings of the study are limited, unfortunately, by its very small size. It is encouraging that the children studied, who would be predicted by the Tucson Children’s Respiratory Study data to be likely to develop persisting asthma, clearly respond to the therapy. The study does not address whether wheezy infants without risk factors for persisting asthma would respond to similar therapy. Larger studies including other subgroups of wheezy infants are needed to support these results.

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EFFECT OF INHALED STEROIDS ON LUNG FUNCTION IN YOUNG CHILDREN: A COHORT STUDY


Purpose of the Study. To determine the use of inhaled corticosteroids (ICSs) for treating recurrent bronchial obstruction in young children up to 2 years of age and to assess possible modifying effects of ICSs on lung function in young children with recurrent bronchial obstruction.

Study Population. Observational, noninterventional birth cohort of 3754 newborn children (3697 with complete questionnaire data by 2 years of age); 306 children with documented recurrent bronchial obstruction by 2 years old were identified along with 306 matched controls.

Methods. Two tidal-flow/volume measurements were taken (1 at presentation of disease [children were steroid naive] and 1 at 2 years of age [mean ages: 11.2 and 25.6 months, respectively]) from 21 subjects who subsequently received ICS (ICS+), 33 who did not receive ICS (ICS–), and 15 controls. The mean ± SD duration of ICS treatment was 10.3 ± 6.5 months. The main outcomes were treatment with ICS and baseline ratio of time to peak expiratory flow/total expiratory time (IPTFE/IE).

Results. From the entire cohort, 77 children (2.1%) and 64 of 306 children (21%) with recurrent bronchial obstruction had received ICS by 2 years of age. Baseline IPTFE/IE was significantly lower at the first visit in ICS+ subjects, as
# Inhaled Corticosteroids and Growth of Airway Function in Asthmatic Children

Wanda Phipatanakul

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