

Publication

Asthma treatment with glucocorticoid inhalants during pregnancy and pediatric diseases in the offspring : A Danish national cohort study

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Rationale: Glucocorticoid inhalation is the preferred asthma treatment during pregnancy. Previous studies on its safety focused on obstetric outcomes and offspring malformations. **Objectives:** To determine whether glucocorticoid inhalation during pregnancy is a risk factor for offspring pediatric diseases. **Methods:** We studied offspring (live singletons) of pregnant women suffering from asthma during pregnancy (prevalence = 6.3%; n = 4,083 mother-child pairs) from the Danish National Birth Cohort (births, 1996-2002; prospective data). We estimated the associations between use of inhaled glucocorticoids for asthma treatment during pregnancy (n = 1231; 79.9% budesonide, 17.6% fluticasone, 5.4% beclomethasone, and 0.9% other or unspecified glucocorticoids) and offspring diseases (International Classification of Diseases-10th Revision, diagnoses) during childhood. We conducted Cox or logistic regression analyses for each International Classification of Diseases-10th Revision category, controlling for use of non-glucocorticoid-containing inhalants, and confirmed results by addressing confounding by treatment indication using propensity score. **Measurements and Main Results:** Offspring median age at end of follow-up was 6.1 (range, 3.6-8.9) years. Glucocorticoid inhalation was not associated with offspring disease risk in most categories, except for offspring endocrine, metabolic, and nutritional disorders (hazard ratio, 1.84; 95% confidence interval, 1.13-2.99). When repeating analyses with the major subgroup that used budesonide only, association estimates were of similar magnitude. **Conclusions:** Regarding most disease categories, data are reassuring, supporting the use of inhaled glucocorticoids during pregnancy. In line with animal data, glucocorticoid inhalation during pregnancy may be a risk factor for offspring endocrine and metabolic disturbances, which should be considered further.

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