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Asthma control and medication use during pregnancy, is a specialized 'Asthma & pregnancy outpatient clinic' of added value?

Background/aims Asthma is the most common chronic disease in pregnancy. Uncontrolled asthma is associated with adverse perinatal outcomes, as preterm birth and low birth weight, and increased maternal complications, as pre-eclampsia. Therefore, asthma during pregnancy needs active management. Pregnant patients with unstable asthma could benefit by outpatient consultation of a specialized multidisciplinary team. This study aims to evaluate the asthma management by our Asthma & Pregnancy outpatient clinic.

Methods This retrospective cohort consists of all pregnant women referred to the Asthma & Pregnancy outpatient clinic (Haga Teaching Hospital, The Netherlands) from 2014 until 2016. At first consultation spirometric testing with reversibility, fractional exhaled nitric oxide (FeNO) measurement, asthma control questionnaire (ACQ), blood eosinophils and allergy testing were performed. Depending on asthma symptoms, medication was intensified. Education was given about medication and the importance of asthma control. Inhalation technique was observed by a pulmonary care nurse.

Results

56 pregnant women were referred at a mean gestational age of 20 weeks. At first consultation mean FEV1 was 94% predicted and mean ACQ was 2.1. In 84% of patients FeNO was measured (mean 24.9 ppb, range 5-158) and in 53% of patients blood eosinophils (mean $0,25 \cdot 10^9/L$, range 0-1,8). In 86% of patients there was at least one change in inhalation medication, see figure 1. In 9 patients 11 acute exacerbations occurred, 6 required hospitalization.

Changes in medication

- none to ICS/SABA
- SABA to ICS/SABA
- ICS/SABA to different or higher dose ICS/SABA
- ICS/SABA to ICS/LABA/SABA
- ICS/LABA/SABA to different or higher dose ICS/LABA/SABA
- Miscellaneous
- SABA= short acting beta agonist, LABA=long acting beta agonist, ICS=inhalation corticosteroid

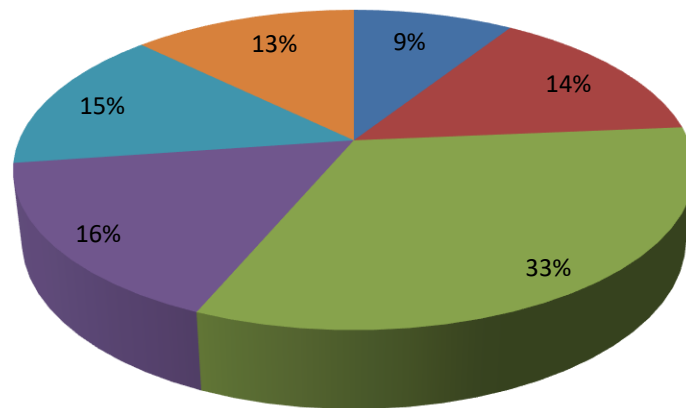


Figure 1

Conclusions

This study confirms that pregnant women with asthma are at risk for uncontrolled asthma and acute exacerbations and often need changes in medication. Mean ACQ at first consultation was high and for 86% of the patients intensification of asthma medication was indicated. Patients were referred late in their pregnancy. In The Netherlands there are only 2 specialized "Asthma & Pregnancy" outpatient departments. We think these patients could benefit by early referral to specialized care with strict monitoring and thereby optimize asthma management during pregnancy.