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Title: The effect of salmeterol/fluticasone on markers of airway inflammation in patients with uncontrolled asthma

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Body: Aim: to assess changes of markers of airway and systemic inflammation in patients with uncontrolled asthma treated with salmeterol/fluticasone. Materials and methods: Thirteen nonsmoking patients (62% males) aged 35-61 yrs (mean 47.4 yrs) with uncontrolled asthma (ACQ-5 >1.5) despite of previous monotherapy with ICS (medium dose 910.7±49.77 mcg BDP) for >30 days were included in this study. Patients were treated with salmeterol/fluticasone (Seretide Discus) 50/250 mcg twice daily during 12 weeks. Spirometry, methacholin challenge test (dry spirometer 2120 Vitalograph, UK), exhaled nitic oxide (FeNO) (Logan 4100 analyser), differential cell count in induced sputum and serum C reactive protein (CRP) were measured at baseline and in 12 weeks. Results. There was a significant reduction of exhaled FeNO (14.9 vs 10.8 ppb, p=0.003) and increase of PC20 to methacholine(0.072 vs 0.203 mg, p=0.005) that was associated with impove asthma contol during the treatment with salmetrol/fluticasone. However, eosinophil counts in induced sputum (13.2 vs 8.9%, p>0.05) and serum CRP level (5.5 vs 4.5 mg/l, p>0.05) did not decrease compared to baseline level. We conclude that FeNO and airway hyperresponsiveness to methacholine change faster and may reflect asthma control in steroid-treated patient with asthma. Eosinophil count in induced sputum and serum CRP level may use for to assess the duration of treatment with ICS/LABA.