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Title: Onset of bronchodilation with fluticasone/formoterol versus fluticasone/salmeterol

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Body: Background: Rapid bronchodilation has been identified as a key attribute of ICS/LABA combination therapy for asthma. This post-hoc analysis assessed the onset of bronchodilation with fluticasone propionate/formoterol fumarate (FLUT/FORM) and fluticasone propionate/salmeterol xinafoate (FLUT/SAL). Methods: 202 adults with asthma (forced expiratory volume in 1 sec [FEV_1] reversibility of ≥15%) were randomized to 12 weeks' treatment with either FLUT/FORM (pMDI; 100/10 or 250/10 μg b.i.d. [treatment doses]; n=101) or FLUT/SAL (pMDI; 100/50 or 250/50 μg b.i.d. [treatment doses]; n=101) in an open-label, parallel-group study. The percentage of patients with onset of bronchodilation within 5 min and 120 min post-dose was assessed on days 0 and 84. Onset of bronchodilation was defined as the first time point post-dose with a ≥12% increase in FEV_1 versus pre-dose. Results: Baseline mean FEV_1 was 2.1±0.6 L (reversibility 27.6±12.8%) and 2.1±0.5 L (reversibility 24.9±9.9%) in the FLUT/FORM and FLUT/SAL groups, respectively. On day 0, a significantly greater proportion of patients had an onset of bronchodilation with FLUT/FORM than FLUT/SAL within 5 min (38.6% vs 14.0%; odds ratio [OR] 4.0; 95% CI 2.0, 8.0) and within 120 min post-dose (78.0% vs 64.0%; OR 2.0; 95% CI 1.1, 3.9). This was sustained over 12 weeks; on day 84, the percentage of patients with an onset of bronchodilation was greater with FLUT/FORM than FLUT/SAL within 5 min (16.3% vs 2.0%; OR 9.6; 95% CI 2.1, 42.9) and within 120 min post-dose (51.0% vs 35.1%; OR 1.9; 95% CI 1.1, 3.4). Conclusion: FLUT/FORM consistently provided more rapid bronchodilation than FLUT/SAL in patients with asthma over 12 weeks of therapy.