Budesonide
A Preliminary Review of its Pharmacodynamic Properties and Therapeutic Efficacy in Asthma and Rhinitis

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**Summary**

**Synopsis:** Budesonide\(^1\) is a non-halogenated glucocorticosteroid which has been shown to possess a high ratio of topical to systemic activity compared with a number of reference corticosteroids such as beclomethasone dipropionate, flunisolide, and triamcinolone acetonide. It appears to undergo extensive first-pass metabolism to metabolites of minimal activity which accounts for the low level of systemic activity.

The majority of therapeutic trials in asthma have been of short term duration and have demonstrated that conventional doses of inhaled budesonide (200 to 800 μg/day) and beclomethasone dipropionate (400 to 800 μg/day) are of similar efficacy in both adults and children with moderate to severe asthma. Other studies have compared high doses of inhaled budesonide (400 to 3200 μg/day in 4 divided doses) with both alternate day (7.5 to 60mg) and daily (7.5 to 40mg) oral prednisone in patients with severe or unstable asthma. In the small number of such trials to date, inhaled budesonide was superior to prednisone with respect to the level of asthma control and the lesser influence on adrenal function. Long term open studies have similarly shown that inhaled budesonide can be gradually substituted for oral prednisone in steroid-dependent patients, often with a concomitant improvement in pulmonary function and asthma control.

Intranasal budesonide (200 to 400 μg/day) relieves nasal symptoms in patients with seasonal allergic, perennial allergic and vasomotor rhinitis. In comparative studies in patients with seasonal rhinitis it has been shown to be of similar efficacy as intranasal flunisolide and intranasal beclomethasone dipropionate and superior to intranasal sodium cromoglycate (cromolyn sodium) and the antihistamine deschlorpheniramine.

Following inhalation, the most commonly reported side effects have been candidiasis, dysphonia and sore throat, while after intranasal administration the most frequent adverse reactions have been nasal stinging, throat irritation, dry nose and slight nasal bleeding. At usual dosages, both formulations of budesonide appear to have little or no effect on adrenal function.

\(^1\) ‘Pulmicort’, ‘Rhinocort’, ‘Spirocort’ (Astra).