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## Systemic Interleukin-6 and Severe Asthma

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## Systemic Interleukin-6 and Severe Asthma

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To the Editor:

We read with interest the findings of Peters et al in patients with severe asthma who reported an increase in baseline circulating interleukin-6 (IL6) levels of 1 pg/ul was associated with a 10% increased risk of an exacerbation over 3 years and was 14% when excluding patients on oral corticosteroids (1). Elevated levels of IL6 in induced sputum in patients with asthma are related to impaired lung function (2, 3).

IL6 is also a key component of the cytokine response in viral illness. For example in hospitalized patients with severe COVID-19 circulating levels of IL6 are the strongest predictor of the need for mechanical ventilation . In the in vitro murine model of acute lung injury systemic IL6 levels are suppressed by both budesonide and formoterol (4).

Furthermore in primary airway epithelial cell cultures pre-treatment with budesonide, formoterol and glycopyrronium inhibited IL6 production after infection with the common cold coronavirus (HCoV-229E) (5). Single inhaler therapy comprising beclomethasone , formoterol and glycopyrronium reduces exacerbations in patients with uncontrolled asthma with persistent airflow limitation (6). Hence we would be interested to know whether such patients who have higher levels of circulating IL6 might benefit more from such triple therapy in terms of protection from viral induced exacerbations including SARS-CoV2.

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