

# THE ROLE OF FLUTICASONE PROPIONATE IN THE MANAGEMENT OF ACUTE EXACERBATIONS OF BRONCHIAL ASTHMA AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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**Abstract.** Management of acute exacerbations of asthma and chronic obstructive pulmonary disease (COPD) still is a serious challenge for modern medicine, given the significant adverse health consequences for patients in both the short and long term. Physicians have access to a wide range of inhaled corticosteroids (ICS) for the treatment of acute exacerbations, but the wide variety of these molecules does not make it easy for practitioners to choose in each clinical case.

**Objective:** To summarize current data on the use of fluticasone propionate in the management of acute exacerbation of asthma and COPD.

**Results:** Fluticasone propionate (FP) is an inhaled corticosteroid used in the treatment of asthma and COPD. Due to its high lipophilicity, high affinity and specificity for corticosteroid receptors, FP has high local vasoconstriction and anti-inflammatory activity. The anti-inflammatory activity is realised by inhibiting the migration and proliferation of T-lymphocytes, inhibiting the release of cytokines by CD4+ T cells and histamine by basophils, reducing the expression of adhesion molecules, stimulating the apoptosis of inflammatory cells and inducing the release of cellular antiprotease. FP has shown its effectiveness in the treatment of asthma exacerbations, which is often comparable to the effectiveness of systemic corticosteroids, but is not accompanied by the same number of side effects of oral corticosteroids. FP also has great potential for the treatment of COPD exacerbations, because in addition to the usual ways of reducing inflammation in the airways, it has the ability to affect the so-called “corticosteroid-insensitive” mechanisms, such as reducing bacteria-induced production of interleukin-8 by macrophages and subsequent neutrophil recruitment. The nebulizer route of delivery of FP during exacerbation effectively delivers it to the respiratory tract even in weakened patients with reduced inspiratory strength or insufficient motor skills or impaired coordination.

**Key words:** bronchial asthma, chronic obstructive pulmonary disease, corticosteroids, fluticasone propionate.