

INFLAMMATION AS A CAUSE OF COUGH AND COMPLICATIONS: ROLE OF MODERN MUCOLYTICS

M. M. Ostovskiy

Abstract

A literature review regarding pharmacodynamics of mucolytic compound erdosteine (Ermucin by Edmond Pharma) has been presented in current publication.

Mucolytic effect of this compound is based on the braking of disulfuric bonds, tiding the glycoproteine fibers, resulting in encreased elasticity and decreased viscosity of sputum. Erdosteine metabolites improve the effectiveness of muco-ciliary clearance of purulent and mucopurulent low respiratory tract secretions. Anti-inflammatory effect of erdosteine is mediated through the suppression of pro-inflammatory cytokines synthesis, such as IL-6 and IL-8, directly involved in neutrophilic immune response in bronchial tree and lung parenchyma.

Additionally, erdostein acts as reactive oxygen species scavenger, preventing its local formation, decreasing 8-isoprostane level as a marker of lipid peroxidation.

Erdostein, being used in 8-months courses, allows not only to manage COPD exacerbation, but also prevents it, improving the quality of life of the patients and modifying diseases outcomes. The impact of erdostein on the rate and duration of COPD exacerbations has been proved in randomized placebo-controlled trial RESTORE. The evidence from this study was used as a rationale for inclusion of erdosteine in 2019 GOLD Guidelines and national COPD guidelines.

The results of the own limited open-label observation study of erdosteine efficacy in COVID-19 associated pneumonia, performed following the discharge of patients from Ivano-Frankivsk regional phthisio-pulmonology center from 1 Jul 2020 till 25 Oct 2020 are presented in this article. The efficacy of erdosteine after one month therapy has been proved in study patients. On Day 30 of erdosteine therapy mMRC dyspnea score significantly decreased in 30.7 % of patients on the background of improved quality of life assessed by SGRQ questionnaire.

The dosage and administration of erdosteine for management of cough in acute lower respiratory tract infections, COPD/chronic bronchitis exacerbations, exacerbation prevention and cough modification, recovery of physical activity in COVID-19 convalescents with secondary bacterial pneumonia, have been presented.

Key words: lower respiratory tract infections, mucolytic therapy, erdosteine.

Ukr. Pulmonol. J. 2021; 2: 41–46.

Mykola M. Ostrovskiy

Ivano-Frankivsk National Medical University

Head of Chair of Phthisiology and Pulmonology

with courses of occupational diseases

MD, professor

Tel.: 380679796690, fax: 380342712062, mykola.m.ostrovskyy@gmail.com