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Title: A COMPARISON OF EFFICACY OF FLUTICASONE WITH BUDESONIDE AND BECLOMETHASONE IN 1:1 DOSE RATIO IN THE TREATMENT OF BRONCHIAL ASTHMA

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OBJECTIVES: This study compared efficacy of fluticasone (FL) with budesonide (BUD) and beclomethasone (BDP) in 1:1 dose ratio in the treatment of bronchial asthma.

METHODS: Comparison was based on randomized controlled trials (RCTs) identified by means of systematic review, carried out according to the Cochrane Collaboration guidelines and Agency for Technology Assessment in Poland. The most important medical databases (EMBASE, MEDLINE and CENTRAL) were searched. Two reviewers independently selected trials, assessed their quality and extracted data. Head-to-head comparisons were performed.

RESULTS: The systematic search retrieved 11 and 10 RCTs for comparison FL vs. BUD and 10 for FL vs. BDP, respectively. Incidence of asthma exacerbations in FL and BUD was comparable. Significant improvement in favor of FL over BUD were found in respect to Forced Expiratory Volume in 1 second - FEV1 (% predicted) (WMD=2.84 [0.80; 4.89]), morning (Peak Expiratory Flow PEF(% predicted) (WMD=3.00 [1.59; 4.41]) and proportion of symptoms-free days (MD=8.7; p=0.02), while Asthma Symptoms Score (ASS) didn't differ between groups (MD=-0.06 [-0.18; 0.06]). FL in comparison with BDP was associated with lower risk of asthma exacerbations (RR=0.74 [0.57; 0.96]), improvement in FEV1 (WMD=0.07 liter [0.01; 0.13]) and in morning PEF (% predicted) (WMD=1.57 [0.09; 3.06]). Moreover, efficacy analysis revealed higher proportion of symptoms-free nights (WMD=8.30 [1.95; 14.65]) and greater reduction in ASS (MD=-0.21 [-0.37; -0.05]) in FL group. FL increased the risk of pharyngitis over BUD (RR=1.66 [1.01; 2.73]) and the risk of hoarseness in comparison with BDP (RR=2.21 [1.06; 4.60]), No other differences in safety outcomes were noted for both comparisons.

CONCLUSION: Fluticasone in comparison with budesonide and beclomethasone in dose ratio 1:1 provides improvement in spirometric parameters and in comparison with beclomethasone but not budesonide reduces the risk of asthma exacerbations. Safety profile of fluticasone seems to be slightly worse than budesonide and beclomethasone.