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Title: Comparable effectiveness of budesonide/formoterol combination and fluticasone for the treatment of cough variant asthma

Dr. Saori 7126 Kirishi kirishi@chi.twmu.ac.jp MD [1], Dr. Etsuko 7127 Tagaya etagaya@chi.twmu.ac.jp MD [1], Dr. Masanobu 7128 Ishii ishii@chi.twmu.ac.jp MD [1], Dr. Kiyoshi 7130 Takeyama ktake@chi.twmu.ac.jp MD [1], Dr. Kazuo 7131 Isono ka-isono@nishisayama-hp.or.jp MD [1], Dr. Mitsuko 7132 Kondo mkondo@chi.twmu.ac.jp MD [1], Dr. Fumiaki 7133 Shinya ribbonsu@gmail.com MD [2] and Prof. Jun 7134 Tamaoki jtamaoki@chi.twmu.ac.jp MD [1]. [1] First Department of Medicine, Tokyo Women's Medical University, Tokyo, Japan and [2] Department of Respiratory Medicine, Iwaki Kyoritsu Hospital, Fukushima, Japan .

Body: Background: Cough variant asthma (CVA) is defined as asthma with cough as the predominant or sole symptom, and one of the most common causes of chronic persistent cough, in which eosinophilic airway inflammation may play an important role. Although current guidelines recommend bronchodilators and anti-inflammatory drugs for the treatment, comparison of the efficacy of these medications has not been investigated. Objective: To evaluate the effectiveness of inhaled budesonide/formoterol combination (BFC) and inhaled fluticasone propionate (FP) in the treatment of CVA. Methods: The study was a randomized, controlled, parallel-group, multicenter trial. After a 4-week run-in period, 45 patients with newly diagnosed CVA were assigned to receive BFC (160/4.5 μg, 1 inhalation twice daily) or FP (200 μg, 1 inhalation twice daily) for 8 weeks. Primary outcome measure was cough symptom assessed by CASA-Q and secondary outcome measures were pulmonary function and eosinophilic airway inflammation. Results: Treatment with BFC and FP each decreased cough symptom scores and cough impact scores, where the values decreased from baseline levels significantly more rapid and greater in the BFC group than in the FP group. FEV1 and PEF increased in both groups, the effects that were more pronounced with BFC compared with FP. Eosinophil counts and eosinophil cationic protein contents in the induced sputum decreased in the two treatment groups with the same magnitudes. Conclusion: Although BFC and FP have equipotent effects for suppressing eosinophilic airway inflammation, treatment with BFC provided improvements in cough symptoms to a greater extent than did FP in patients with CVA.