Abstract Group: 5.1. Airway Pharmacology and Treatment
Keyword 1: Asthma - management  Keyword 2: Airway management  Keyword 3: Education

Title: The investigation of inhalation continuous duration for dry powder inhalers in asthmatic patients

Takashi 23955 Niimi tniimi@higashi-hosp.jp MD 1, Yuko 23956 Shima yuko19840710@yahoo.co.jp 1, Yukari 23957 Sakurai y_sakusaku@hotmail.com 1, Takamitsu 23958 Asano t_k_asano@yahoo.co.jp 1, Akiko 23959 Halata akiponjuice@yahoo.co.jp 1, Yuki 23960 Tomita ytom1979@hotmail.com 1, Yuko 23962 Takano takeyuko31@yahoo.co.jp 1, Shlgeki 23969 Sato ssato@med.nagoya-cu.ac.jp MD 2, Kenji 23971 Akita kenji.akita@jr-central.co.jp MD 3, Masashi 23975 Banno humihiro.terai@jr-central.co.jp 4, Ryo 23981 Matsushita matusita@p.kanazawa-u.ac.jp 5 and Hidenori 27005 Ibata ibata@miechuo-m.hosp.go.jp MD 6. 1 Department of Respiratory Disease, Nagoya City East Medical Center, Nagoya, Aichi, Japan, 4648547; 2 Department of Medical Oncology and Immunology, Nagoya City University Graduate School of Medical Sciences, Nagoya, Aichi, Japan, 4678601; 3 Department of Respiratory Medicine, Nagoya Central Hospital, Nagoya, Aichi, Japan, 4530801; 4 Department of Pharmacology, Nagoya Central Hospital, Nagoya, Aichi, Japan, 4530801; 5 Clinical Pharmaceutics, Division of Pharmaceutical Sciences, Graduate School of Natural Science and Technology, Kanazawa University, Kanazawa, Ishikawa, Japan, 9201192 and 6 Department of Respiratory Medicine, Mie Central Medical Center, Tsu, Mie, Japan, 5141101.

Body: Background: Dry powder inhalers (DPIs) have been important for management of asthmatic patients. And instruction for use of inhaler devise was effectively for control of asthma. Although inhalation technique of DPIs that inhaling fast with maximum force from start to stopping was reportedly important, effective inhalation continuous duration was unknown. In this study, we evaluate effect of instruction considering inhalation continuous duration in asthmatic patients. Methods: One hundred and thirty nine asthmatic patients who use fluticasone propionate discus or budesonide turbuhaler were studied. Insufficient peak inspiratory flow rate (PIF) and length of inspire continuous time were evaluated by discus-trainer or turbuhaler-tester or In-Check. Of 139 patients, 22 without sufficient PIF were omitted from the study. Instruction considering inhalation continuous duration was done for 117 patients and effects for forced expiratory volume in one second (FEV1.0) and peak expiratory flow rate (PEF) was evaluated. Results: In all patients groups distinguished by inhalation continuous duration before instruction, significant increase of inhalation continuous duration was found after instruction (p value of all groups were p<0.01). And Significant improvement of FEV1.0 and PEF was found after instruction in patients group with inhalation continuous time less than one second (both of FEV 1.0 and PEF, p<0.01). ConclusionIn control of asthmatic patients, instruction considering inhalation continuous duration was useful and instructing not only inhale fast and forcefully, adding “continue inhalation with deeply breath more than one second” is considered to be recommend from our results.