

Is It Possible to Achieve Better Asthma Control by Using the Same Inhaler Device?

Yoo Seob Shin, Hae-Sim Park*

Department of Allergy and Clinical Immunology, Ajou University School of Medicine, Suwon, Korea

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Achieving asthma control is central to optimizing patient quality of life and clinical outcomes. This definition of asthma control has two components: achieving current clinical asthma control and reducing future risk.¹ The level of clinical asthma control is defined by the Global Initiative for Asthma (GINA) using a composite score comprising five measures. Reducing asthma exacerbations is a key factor for preventing future risk.² The regular use of inhaled corticosteroids (ICS) is essential for controlling asthma symptoms and reducing asthma exacerbations. A previous study found that a history of exacerbations, poor asthma control, poor inhaler technique, a history of lower respiratory tract infections, poor adherence to medication, and the presence of co-morbid conditions all predicted the future risk of asthma exacerbation.³

Most control medications, including ICS, are delivered via inhalation. The correct use of inhaler devices is critical for optimizing drug delivery and obtaining clinical benefits.⁴ However, inhaler use still represents an important challenge for most asthmatic patients. The correct inhalation maneuver differs markedly for different inhaler types. The problems and prevalence of incorrect inhaler use have been the subject of several recent reviews.⁵⁻⁷ Improper technique remains common for both metered dose (MDIs) and dry power (DPIs) inhalers, and was associated with poor clinical control and increased unscheduled health-care demands in asthma clinics.⁸ Inhaler mishandling continues to be common among experienced outpatients referred to asthma clinics and is associated with increased unscheduled health care resource use.⁸ Nevertheless, inhaler technique status has not been included in most analyses examining the predictors of asthma exacerbation. Poor adherence to asthma medication is a dilemma, as it decreases the chance of achieving and maintaining proper asthma control. Education of both patients and health care professionals regarding proper inhaler technique will improve asthma control.^{9,10}

The study by Price et al.¹¹ in this issue is the first to compare

outcomes for asthmatic patients prescribed the same inhaler device versus mixed device types for asthma control and relief therapy. This retrospective observational study identified patients with asthma (age 4-80 years) in a large primary care database who were prescribed an ICS. They compared outcomes for patients prescribed the same breath-actuated inhaler (BAI) for both the ICS controller and salbutamol reliever versus those using two devices (a BAI for the controller and a pressurized metered-dose inhaler [pMDI] for the reliever). Patients prescribed the same device (n=3,428) were significantly more likely to achieve asthma control (adjusted odds ratio, 1.15) and had significantly lower severe exacerbation rates (adjusted rate ratio, 0.79; 95%) than those prescribed two devices (n=5,452). These findings suggest that prescribing the same device for both ICS and reliever therapy improves asthma control.

A previous study evaluated the skill at handling inhalers and factors associated with these skills in 145 patients with asthma under the care of asthma specialists in Korea.¹² When their skill at using the inhalers was assessed visually, the performance was inadequate for 12.8% of the participants using Turbuhaler, 6.2% using Diskus, and 23.4% using pMDIs. Most showed excellent skill at using their inhalers. However, older age and the absence of previous instructions for handling the inhalers were associated with inadequate techniques, indicating that this population requires more education to improve their inhalation technique. Several studies used repeated inhaler instructions as a method to improve inhaler technique.^{9,13} Educational adherence support should be a collaborative effort between the

Correspondence to: Hae-Sim Park, MD, PhD, Department of Allergy and Clinical Immunology, Ajou University School of Medicine, San 5 Woncheon-dong, Yeongtong-gu, Suwon 443-721, Korea.
Tel: +82-31-219-5196; Fax: +82-31-219-5154; E-mail: hspark@ajou.ac.kr
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patient and health care professional.¹⁴

One limitation of this study is that it includes the potential for unrecognized confounding factors, including selection bias, as it was a retrospective study.¹¹ This study examined a database of primary physicians in the U.K. As such, there were missing data for some patients, including smoking history, which could influence outcomes. There is no assurance that patients actually took the medications as prescribed. However, this study enrolled a larger cohort of patients using ICS, included for a 1-year outcome period, and provided good evidence of improved asthma outcome with improved adherence to medications using the same BAI device for both controller ICS and reliever salbutamol therapy.

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