

Evaluating real-life effectiveness in patients who change from a dry powder inhaler (DPI) to a pressurised metered dose inhaler (pMDI) for ICS/LABA

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The long term goals of asthma treatment are to achieve good control of symptoms and to minimize future risk of exacerbation. Fixed dose combination (FDC) of inhaled corticosteroid (ICS) and long acting β_2 -agonist (LABA) has been recommended for asthmatics for persistent symptoms despite of ICS treatment. Current available inhaler devices for ICS/LABA are dry powder inhalers (DPIs) and pressurized metered-dose inhalers (pMDIs). Selection of inhaler device appears to influence real-life effectiveness of asthma treatment. In the previous UK cohort study, asthma control and treatment success were significantly higher in asthmatics who were prescribed a pMDIs rather than DPIs of fluticasone-salmeterol. This study aimed to assess persistence and effectiveness of change from DPIs to pMDIs for ICS/LABA combination therapy.

This is a historical cohort study using Ajou University Hospital (Korea) patient records. Persistence in the following 6 months was defined as receiving ≥ 1 pMDI (fluticasone propionate/formoterol fumarate or beclometasone dipropionate/formoterol fumarate) and no DPI after the change. Proportion of patients without severe asthma exacerbation and proportion achieving asthma control in one year after the change was compared to one year before the change.

117 patients changed to FDC ICS/LABA pMDI in the study period. 76% (95%CI, 67%-100%) patients persisted with the change in the following 6 months of which 47 switched to Foster (BDP/FOR pMDI) and 38 switched to Flutiform (FP/FOR pMDI). Of 85 patients persisted with change in the following one year, the proportions of patients free from asthma exacerbation were 84.7% vs 71.8% after and before change respectively ($p=0.010$). Changing to pMDI was also associated with better risk domain (75.3% vs 57.5%, $p=0.001$) and overall asthma control (57.7% vs 45.9%, $p=0.021$), with results driven by change to fluticasone propionate/formoterol fumarate.

Most patients persisted with the change to pMDI inhaler from DPI inhaler for ICS/LABA treatment. Changing to pMDI was associated with decreased asthma exacerbation and improved asthma control.