

likely to receive prescriptions of OCS for asthma exacerbations than initiators of ICS (HR, 0.38; 95%CI, 0.12-0.66) or LABA monotherapies (HR, 0.50; 95%CI, 0.14-0.78). **CONCLUSIONS:** Inhaled LABA should not be prescribed as monotherapy to adults with asthma, and should be used as an add-on to ICS as maintenance therapy. The findings suggest presence of time-dependent confounding by asthma severity in the assessment of LABA association with asthma exacerbations requiring prescriptions of OCS.

RESPIRATORY-RELATED DISORDERS – Clinical Outcomes Studies

PRS2

LONG-ACTING BETA-AGONISTS AND ASTHMA EXACERBATIONS REQUIRING SHORT COURSES OF ORAL CORTICOSTEROIDS: A MULTI-CATEGORY EXPOSURE MARGINAL STRUCTURAL MODELS ANALYSIS

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OBJECTIVES: To evaluate asthma-related morbidity in patients exposed to long-acting beta-agonist (LABA) bronchodilators as monotherapy, inhaled corticosteroids (ICS) monotherapy, and ICS/LABA combination therapy. **METHODS:** The Clinical Practice Research Datalink (formerly the General Practice Research Database, GPRD) was used to apply marginal structural models for the evaluation of asthma-related morbidity measured by prescriptions for short courses oral corticosteroids (OCS) within 12 months of initiating LABA, ICS, or ICS/LABA in a cohort of asthmatic adults. Asthma severity was measured by the following variables during 12 months before LABA initiation (prescription for OCS, asthma-related visits to hospitals or emergency departments, and number of prescriptions for inhaled short-acting beta-agonists [SABA]); and the following variables at the initiation and during 12 months after (prescription for SABA, and number of asthma drug classes prescribed). **RESULTS:** A total of 51,103 asthmatic adults were followed for 12 months after receiving first prescription for study drugs from January 4, 1993 to August 20, 2010. About 92% initiated ICS monotherapy, 1% initiated LABA monotherapy, and 7% initiated combination therapy. Among ICS/LABA combination therapy initiators, 78% were in single-device formulations and 22% were in separate-devices. Compared with ICS monotherapy, LABA monotherapy is associated with 10% increased risks of asthma exacerbations requiring short courses of OCS (HR, 1.10; 95%CI, 1.07-1.18). Initiators of ICS/LABA combination therapy are respectively 62% and 50% less