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## **Effectiveness of initiating biologics in severe asthma patients with high steroid exposure**

Asthma - management, Severe asthma, Treatments

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**Introduction:** Real-world evidence on the effectiveness of therapeutic antibodies (“biologics”) in patients with asthma is limited.

**Aim:** To examine the effectiveness of initiating biologics in a large, international, real-world cohort of adult patients with severe asthma (SA) and high oral corticosteroid (OCS) exposure.

**Methods:** Patients with SA on long-term (maintenance) OCS or  $\geq 4$  courses of rescue OCS within a 12-month period were identified (January 2015-February 2021) from the International Severe Asthma Registry (<http://isaregistries.org/>). Biologic initiators were identified and matched 1:1, using propensity scores, with non-initiators. The impact of biologic initiation (first 365 days) on asthma exacerbations, OCS dose (both total and long-term) and healthcare resource utilization were assessed using generalized linear models.

**Results:** Among 996 matched pairs, at 365 days of follow-up, biologic initiation was associated with a 69.2% reduction in the number of exacerbations relative to non-initiators (0.64 vs 2.06,  $p=0.019$ ). Biologic initiators were also 2.20 times more likely than non-initiators to have daily long-term OCS dose below 5 mg ( $p=0.002$ ) and inclined to be more likely to achieve a high reduction ( $>75\%$ ) in total OCS dose (4.01 times,  $p=0.063$ ). Initiation of biologics reduced the frequency of asthma-related hospitalizations (reduction: 57.3%,  $p=0.006$ ) and had a trend towards reduction for emergency department visits (52.2%,  $p=0.054$ ).

**Conclusions:** Real-world initiation of biologics is associated with reduced exacerbation rate, OCS exposure, and healthcare resource utilization in patients with severe asthma and high OCS.