
Characterisation of severe, steroid-dependent asthma patients who initiate biologics versus those who do not

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Introduction: Information on characteristics of severe asthma patients with high oral corticosteroid exposure (HOCS) initiating biologics is limited.

Aim: To compare characteristics of severe asthma patients with HOCS based on biologic initiation.

Methods: Profiles of patients with HOCS (≥ 1 -year long-term OCS therapy, or ≥ 4 courses of steroid bursts in a year) from the International Severe Asthma Registry (ISAR), who initiated or did not initiate biologics (anti-IgE, anti-IL5/anti-IL5R or anti-IL4R) were compared at biologic initiation or registry enrolment.

Results: Between May 2015 and January 2021, 13.3% (1412) of 10606 patients from 19 countries had HOCS. Of whom, 996 initiated biologics and 416 did not. Patients initiating biologics were more likely to be male, White, eosinophilic (via a new Eosinophilic Phenotype Classification; Perez-de-Llano L, *et al. AJRCCM* 2020;201: A4525), had greater airflow limitation (post-bronchodilator FEV₁/FVC ratio < 0.7), nasal polyps, positive serum allergen tests and uncontrolled asthma (**Figure**). Biologic initiators were younger at baseline (51.6 vs. 53.2 years) but both groups had similar annual asthma exacerbations rates (5.7 vs 5.3, p=0.14).

Conclusions: HOCS patients have different baseline characteristics based on biologic initiation. Future biologic comparative effectiveness research should account for these differences.

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Abbreviations: HOCS; high oral corticosteroid exposure, FEV₁: forced expiratory volume at 1 second, FVC: forced vital capacity.

