Dupilumab improves long-term asthma control in German patients with severe asthma: Real-word experience

Andreas Renner[1,2], Slagjana Stoshikj[1,2], Christina Bal[1,2], Eckard Hamelmann[3], Dirk Skowasch[4], Christian Schulz[5], Margret Jandl[6], Olaf Schmidt[7], Katrin Milger[8], Rainer Ehmann[9], Christian Taube[10], Stephanie Korn[11], Roland Buhl[12], Marco Idzko[1,2], and the German Asthma Net (GAN) study group 1 Department of Pneumology, Medical University of Vienna, Vienna, Austria 2 Comprehensive Center for Chest Diseases, Medical University of Vienna, Vienna, Austria. 3 Kinderzentrum Bethel, Evangelisches Klinikum Bethel, University Bielefeld, Bielefeld, Germany 4 Department of Internal Medicine Pneumology, University Hospital Bonn, Bonn, Germany 5 Department of Internal Medicine II, University Hospital Regensburg, Regensburg, Germany 6 Hamburger Institut für Therapieforschung GmbH, Hamburg, Germany 7 Pneumologische Gemeinschaftspraxis und Studienzentrum KPPK, Koblenz, Germany 8 Department of Medicine V, Ludwig-Maximilians-University (LMU) of Munich, Comprehensive Pneumology Center (CPC-M) German Center for Lung Research (DZL), Munich, Germany 9 Ambulante Pneumologie mit Allergiezentrum, Stuttgart, Germany 10 Department of Pulmonary Medicine, University Hospital Essen - Ruhrlandklinik, Essen, Germany 11 Department of pulmonary and respiratory critical care medicine, Thoraxklinik Heidelberg und IKF Pneumologie Mainz, Mainz, Germany 12 Pulmonary Department, Mainz University Hospital, Mainz, Germany

Rationale

Dupilumab has proven efficacy in severe asthma, but there is only sparse evidence on its real-life impact on asthma control in a real-world setting.

Results

A total of 481 patients with severe asthma initiated dupilumab. At baseline, median blood eosinophil count was 174 cells/µL (IQR 61.2-436); 184 (38.3%) were former smokers with median 9.6 pack-years (IQR 4.3-23.3).

Clinical effectiveness was evaluated in 235 patients. The FEV1 increase from baseline was maintained over the whole study period (+300 mL at 4 months and 1 year, +200 mL at 2 and 3 years, all p<0.0001). The frequency of exacerbations decreased and the Asthma Control Test score increased from baseline clinically significantly at all timepoints (+4.3 at 4 months, +4.9 points at 1 year, +5.3 points at 2 years, and +4.6 points at 3 years, all p<0.0001). Dupilumab was well tolerated, <10% of patients reported adverse events or discontinued dupilumab treatment.

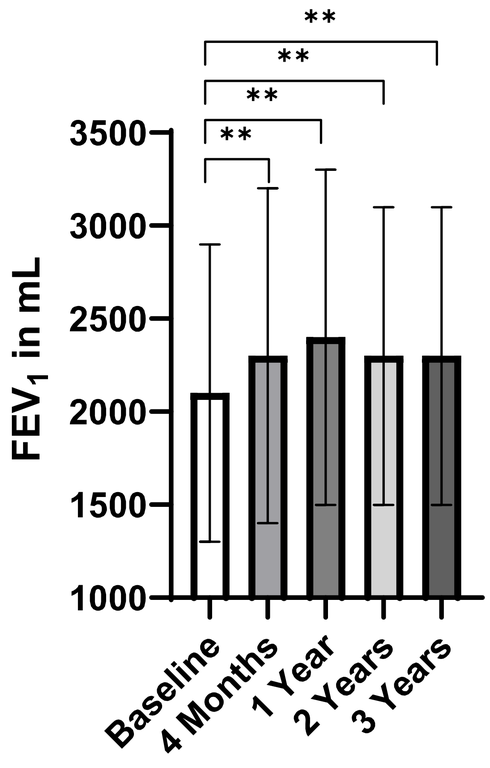

Figure 1: Forced expiratory volume in 1 sec (FEV_1) in mL at baseline (2100±800) and follow-up visits (Month 4 2300±900, Year 1 2400±900, Year 2 2300±800, Year 3 2300±800). Bars indicate mean, whiskers standard deviation. ** *p*<0.0001

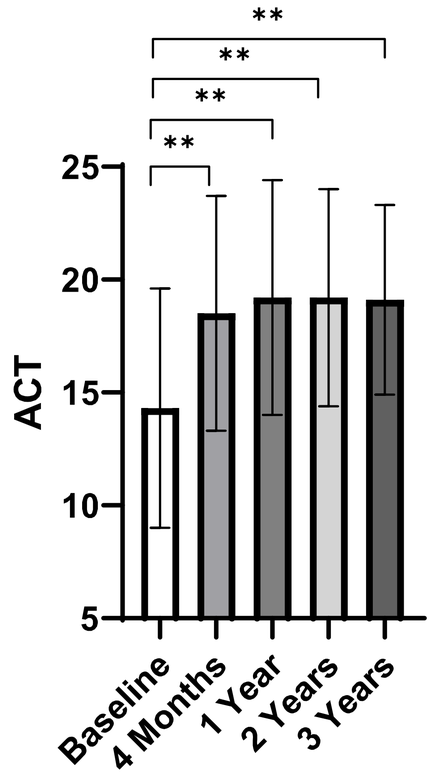

Figure 2: Asthma control test (ACT) at baseline (14.3±5.3) and follow-up visits (Month 4 18.5±5.2, Year 1 19.2±5.2, Year 2 19.2±4.8, Year 3 19.1±4.2). Bars indicate mean, whiskers standard deviation. ** p<0.0001

Methods

All patients from the German Asthma Network (GAN) severe asthma registry who initiated dupilumab after inclusion into the registry were analysed. Clinical effectiveness was evaluated in those with at least two follow-up visits, with a maximum follow-up time of 3 years.

Conclusions

In this large real-life study of dupilumab in patients with severe asthma dupilumab showed long-term clinical effectiveness for up to 3 years, with results consistent with prior randomised controlled trials.

Acknowledgement: This study was funded by Sanofi-Aventis.