Outcomes in Patients With Asthma and Coexisting Allergic Rhinitis Who Started Dupilumab Treatment in Real-World Clinical Practice: A RAPID Registry Study

Xavier Muñoz[1], David Price[2,3], Changming Xia[4], Hashem Awad[5], Jason H. Kwah[4], Giselle S. Mosnaim[6]

[1]Hospital Vall d'Hebron, Barcelona, Spain; [2]Observational and Pragmatic Research Institute, Midview City, Singapore; [3]University of Aberdeen, Aberdeen, UK; [4]Regeneron Pharmaceuticals Inc., Tarrytown, NY, USA; [5]Sanofi, Cambridge, MA, USA; [6]Endeavor Health, Evanston, IL, USA

Conclusion

Patients with asthma with/without coexisting AR, treated with dupilumab had fewer exacerbations, better asthma control, and improved asthma-related quality of life; those with coexisting AR also reported reduced symptoms and enhanced AR-related quality of life

CO143

Asthma

Full poster

Objective

This analysis of 12-month data from the RAPID registry evaluated changes in asthma severity and patient-reported outcomes in patients with asthma with or without coexisting AR

Background

- Many patients with asthma present with coexisting type 2 inflammatory diseases such as AR[1,2]
- Previous clinical trials showed that dupilumab significantly reduced severe asthma exacerbations and improved lung function in patients with uncontrolled, moderate-to-severe asthma[3–5]
- RAPID (NCT04287621) is a global, prospective, observational study designed to characterize patients with asthma initiating dupilumab in routine clinical practice, describe real-world patterns of use of dupilumab, and assess long-term effectiveness and safety to expand on data from prior clinical studies[6]

Methods

Study design

- RAPID[3] enrolled patients aged ≥12 years initiating dupilumab for asthma according to country-specific prescribing information
  - Patients were followed for up to 3 years with regular assessments at 1 month, and every 3 months
- This analysis evaluated 12-month data in patients with (n = 167) and without (n = 38) coexisting AR

Study assessments

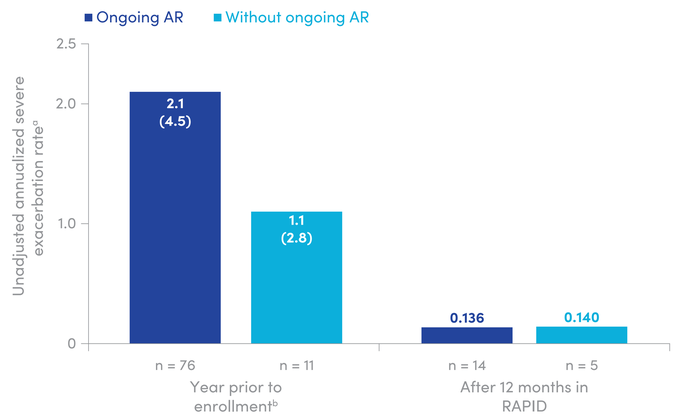
- Change in annualized rate of severe exacerbations compared with the previous 12 months
- Change from baseline in ACQ-6 score, MiniAQLQ score, AR-VAS score, and RQLQ score

Results

Baseline demographic characteristics of patients initiating dupilumab in RAPID, with or without AR

	With AR n = 167	Without AR n = 38
Age, mean (SD), years	48.2 (17.5)	58.4 (14.4)
Sex, female, n (%)	116 (69.5)	18 (47.4)
Time since first diagnosis of asthma, n (%)	167 (100)	38 (100)
Mean (SD), years	21.9 (18.6)	16.2 (13.6)
Duration of asthma, n (%)	153 (91.6)	32 (84.2)
Mean (SD), years	21.9 (18.2)	17.3 (12.9)
Duration of AR, n (%)	60 (35.9)	0
Mean (SD), years	12.5 (18.9)	NA (NA)
Pre-bronchodilator FEV_1, n (%)	68 (40.7)	25 (65.8)
Mean (SD), L	2.3 (0.8)	2.2 (1.2)
Pre-bronchodilator $ppFEV_1$, n (%)	79 (47.3)	25 (65.8)
Mean (SD), %	71.1 (19.8)	67.4 (21.9)
Blood eosinophil count, n (%)	60 (35.9)	14 (36.8)
Median (Q1–Q3), cells/µL	330.0 (210.0–695.0)	300.0 (90.0–700.0)
Total IgE, n (%)	48 (28.7)	17 (44.7)
Median (Q1–Q3), IU/mL	226.5 (70.5–791.5)	132.0 (43.0–538.0)
FeNO, n (%)	43 (25.7)	18 (47.4)
Median (Q1–Q3), ppb	35.0 (16.0–62.0)	33.5 (19.0–49.0)

Dupilumab reduced the rate of severe asthma exacerbations during the first 12 months of RAPID regardless of the presence of coexisting AR



All severe exacerbation events that occurred during the 52-week treatment period are included, regardless if the patient was on-treatment or not.
[a]The total number of events that occurred during the 52-week treatment period divided by the total number of patient-years followed in the 52-week treatment period
[b]Year prior to enrollment shows mean (SD) number of exacerbations.

Patients reported improved asthma control and quality of life after 12 months of dupilumab treatment, regardless of the presence of coexisting AR

	Baseline	Month 1	Month 3	Month 6	Month 9	Month 12
ACQ-6						
With AR						
n = 167	160	142	134	134	121	114
Value at visit, mean (SD)	2.36 (1.21)	1.31 (1.02)	1.11 (0.92)	1.03 (0.99)	1.02 (0.95)	0.99 (1.08)
Change from baseline, mean (SD)	–	−1.03 (1.17)	−1.28 (1.14)	−1.34 (1.26)	−1.28 (1.13)	−1.35 (1.10)
Without AR						
n = 38	35	33	33	28	29	21
Value at visit, mean (SD)	2.26 (1.11)	1.47 (0.93)	1.36 (0.92)	1.51 (1.03)	1.30 (1.20)	1.03 (0.96)
Change from baseline, mean (SD)	–	−0.84 (0.87)	−0.90 (0.96)	−0.73 (0.91)	−1.05 (1.26)	−1.41 (1.13)
MiniAQLQ						
With AR						
n = 167	159	–	–	131	–	109
Value at visit, mean (SD)	4.02 (1.28)	–	–	5.48 (1.29)	–	5.54 (1.37)
Change from baseline, mean (SD)	–	–	–	1.52 (1.37)	–	1.53 (1.36)
Without AR						
n = 38	35	–	–	27	–	21
Value at visit, mean (SD)	4.40 (1.47)	–	–	5.56 (1.22)	–	5.42 (1.38)
Change from baseline, mean (SD)	–	–	–	1.08 (1.09)	–	0.95 (1.30)
AR-VAS						
With AR						
n = 167	151	135	128	128	–	108
Value at visit, mean (SD)	47.87 (29.40)	27.21 (29.50)	26.52 (28.02)	26.43 (28.01)	–	25.48 (28.91)
Change from baseline, mean (SD)	–	−18.98 (30.62)	−21.92 (30.03)	−23.59 (32.36)	–	−23.48 (32.82)
RQLQ(S)+12						
With AR						
n = 167	151	–	–	127	–	108
Value at visit, mean (SD)	2.16 (1.32)	–	–	1.24 (1.10)	–	1.39 (1.31)
Change from baseline, mean (SD)	–	–	–	−0.97 (1.18)	–	−0.84 (1.34)

ACQ-6, 6-item Asthma Control Questionnaire; AR, allergic rhinitis; AR-VAS, Allergic Rhinitis Visual Analog Scale; FeNO, fractional exhaled nitric oxide; FEV_1, forced expiratory volume in 1 second; IU, international units; MiniAQLQ, Mini Asthma Quality of Life Questionnaire; NA, not applicable; ppb, parts per billion; $ppFEV_1$, percent predicted FEV_1; Q, quartile; RAPID, Registry of Asthma Patients Initiating Dupilumab; RQLQ(S)+12, Standardized Rhinoconjunctivitis Quality of Life Questionnaire ≥ 12 years; SD, standard deviation.

References: 1. Ciprandi G. J Asthma Allergy. 2023;16:1087–95. 2. Bergeron C, Hamid Q. Allergy Asthma Clin Immunol. 2005;1:81–7. 3. Wenzel S, et al. Lancet. 2016;388:31–44. 4. Castro M, et al. N Engl J Med. 2018;378:2486–96. 5. Rabe KF, et al. N Engl J Med. 2018;378:2475–85. 6. Gall R, et al. Adv Ther. 2023;40:1292–8.

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