Dupilumab Improves Health-Related Quality of Life and Asthma Control in Patients With and Without Coexisting Type 2 Conditions: Results From the RAPID Study

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Asthma

Full poster

Conclusion

In this real-world analysis of dupilumab use, patients had fewer exacerbations and improved asthma control, irrespective of coexisting CRS and/or NP, and CRS symptoms also improved in patients with CRS and/or NP

Objective

To assess the first 205 patients completing 1 year of the RAPID registry for dupilumab efficacy in reducing asthma severity in those with or without coexisting CRS and/or NP, and evaluate PROs for both asthma and CRS and/or NP

Background

- Asthma frequently coexists with other type 2 inflammatory diseases such as CRS and NP,[1] causing poor asthma control and impaired QoL[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]
- Limited retrospective studies support the real-world effectiveness of dupilumab[6–8]
- RAPID (Registry of Asthma Patients Initiating DUPIXENT®, NCT04287621) is a global, prospective, observational registry of patients initiating dupilumab for asthma as the primary indication in a real-world setting[9]

Methods

Study design

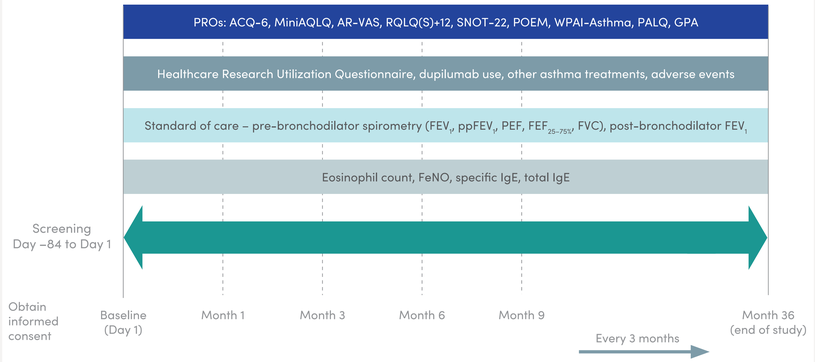
- RAPID enrolled patients aged ≥12 years initiating dupilumab for asthma according to country-specific prescribing information
- Patients were followed for up to 3 years; this is an interim analysis at 12 months
- Adults and adolescents with (n = 94) or without (n = 111) CRS and/or NP were included in this analysis

Study assessments

- Baseline disease characteristics
- Change in exacerbation rate compared with previous 12 months
- Change from baseline in ACQ-6 score
- Change from baseline in MiniAQLQ score
- Change from baseline in SNOT-22 score

Results

RAPID study design



- Demographics and family history
  - Asthma and treatment history, medical history, and coexisting type 2 conditions (e.g. ABPA, AD, AERD, AR, CRS, EoE, food allergy, NP, urticaria)

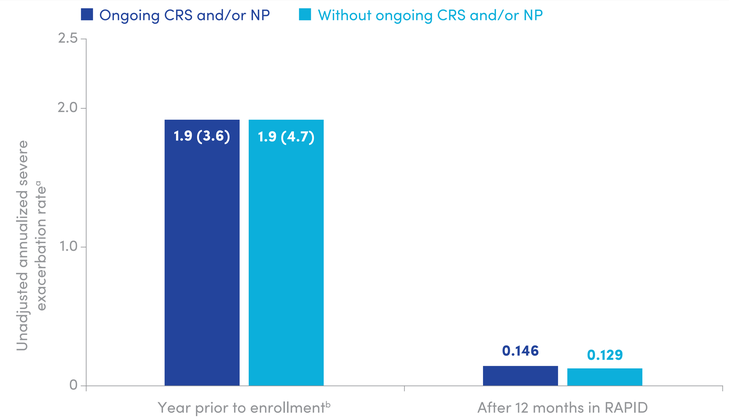
Patients reported improved asthma control and QoL irrespective of CRS and/or NP. SNOT-22 scores also improved for those patients with CRS and/or NP

	Baseline	Month 1	Month 3	Month 6	Month 9	Month 12
ACQ-6						
With CRS and/or NP						
N = 94	90	78	75	73	69	59
Value at visit, mean (SD)	2.3 (1.3)	1.3 (1.1)	1.0 (0.9)	1.0 (1.0)	0.9 (0.9)	0.9 (1.0)
Change from baseline, mean (SD)	–	−0.9 (1.2)	−1.1 (1.1)	−1.2 (1.2)	−1.3 (1.2)	−1.3 (1.1)
Without CRS and/or NP						
N = 111	105	97	92	89	81	76
Value at visit, mean (SD)	2.4 (1.1)	1.4 (1.0)	1.3 (0.9)	1.3 (1.0)	1.2 (1.1)	1.1 (1.1)
Change from baseline, mean (SD)	–	−1.1 (1.1)	−1.3 (1.1)	−1.3 (1.3)	−1.2 (1.1)	−1.4 (1.1)
MiniAQLQ						
With CRS and/or NP						
N = 94	90			71		58
Value at visit, mean (SD)	4.1 (1.3)	–	–	5.7 (1.2)	–	5.7 (1.3)
Change from baseline, mean (SD)	–			1.5 (1.3)		1.3 (1.4)
Without CRS and/or NP						
N = 111	104			87		72
Value at visit, mean (SD)	4.1 (1.3)	–	–	5.3 (1.3)	–	5.4 (1.4)
Change from baseline, mean (SD)	–			1.4 (1.4)		1.5 (1.3)
SNOT-22						
With CRS and/or NP						
N = 94	83	76	–	67	–	55
Value at visit, mean (SD)	46.1 (25.1)	30.3 (20.6)	–	23.9 (18.9)	–	26.6 (26.1)
Change from baseline, mean (SD)	–	−15.2 (21.3)	–	−19.8 (20.7)	–	−17.0 (26.2)

Baseline characteristics of patients initiating dupilumab in RAPID, with or without CRS and/or NP

Characteristics	With CRS and/or NP N = 94	Without CRS and/or NP N = 111
Age at onset of asthma, mean (SD), years	33.9 (21.1)	28.7 (22.4)
Number of severe exacerbations in the year prior to screening, n (%)	41/80 (51.3)	46/89 (51.7)
Mean (SD)	1.9 (3.6)	1.9 (4.7)
ACQ-6, n (%)	90 (95.7)	105 (94.6)
Mean (SD)	2.3 (1.3)	2.4 (1.1)
MiniAQLQ, n (%)	90 (95.7)	104 (93.7)
Mean (SD)	4.1 (1.3)	4.1 (1.3)
SNOT-22, n (%)	83 (88.3)	NA
Mean (SD)	46.1 (25.1)	
Pre-bronchodilator FEV_1, n (%)	42 (44.7)	51 (45.9)
Mean (SD), L	2.4 (0.9)	2.2 (0.9)
Pre-bronchodilator $ppFEV_1$, n (%)	44 (46.8)	60 (54.1)
Mean (SD), %	72.4 (18.3)	68.6 (21.6)
Blood eosinophil count, n (%)	34 (36.2)	40 (36.0)
Median (Q1–Q3), cells/μL	395.0 (190.0–600.0)	300.0 (210.0–700.0)
Total IgE, n (%)	30 (31.9)	35 (31.5)
Median (Q1–Q3), IU/mL	251.5 (90.0–652.0)	132.0 (46.3–710.0)
FeNO, n (%)	29 (30.9)	32 (28.8)
Median (Q1–Q3), ppb	35.0 (16.0–60.0)	32.5 (14.5–55.5)

Rates of severe exacerbations were reduced after 12 months in RAPID in patients with or without coexisting CRS and/or NP



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.

ABPA, allergic bronchopulmonary aspergillosis; ACQ-6, 6-item Asthma Control Questionnaire; AD, atopic dermatitis; AERD, aspirin-exacerbated respiratory disease; AR, allergic rhinitis; AR-VAS, Allergic Rhinitis Visual Analog Scale; CRS, chronic rhinosinusitis; EoE, eosinophilic esophagitis; $FEF_{25–75\%}$, forced expiratory flow at 25–75% of pulmonary volume; FeNO, fractional exhaled nitric oxide; FEV_1, forced expiratory volume in 1 second; FVC, forced vital capacity; GPA, Global Patient Assessment; IU, international units; MiniAQLQ, Mini Asthma Quality of Life Questionnaire; NA, not applicable; NP, nasal polyps; PALQ, Physical Activity Limitation Questionnaire; POEM, Patient-Oriented Eczema Measure; ppb, parts per billion; $ppFEV_1$, percent predicted FEV_1; PRO, patient-reported outcome; Q, quartile; QoL, quality of life; RQLQ(S)+12, Standardized Rhinitis Quality of Life Score aged ≥12 years; SD, standard deviation; SNOT-22, 22-item Sino-Nasal Outcome Test; WPAI-Asthma, Work Productivity and Activity Impairment Questionnaire for Asthma.

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