Strategies for the management of chronic rhinosinusitis with nasal polyps: Expert insight in optimizing care

An expert panel discussion recorded in September 2021

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Expert panel

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Agenda

- Challenges in the diagnosis of CRSwNP
- The management of CRSwNP and the problem of disease recurrence
- The implications of recent clinical data for the use of biologics in CRSwNP

Challenges in the diagnosis of CRSwNP

Prof. Claire Hopkins

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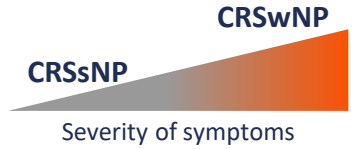
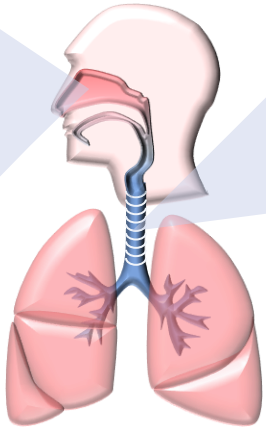
Clinical features of CRSwNP and asthma

CRS[1,2]

- Nasal blockage
- Impaired sense of smell
- Sleep disturbance/fatigue
- Mucopurulent rhinorrhoea
- Postnasal drip
- Facial pain
- Headache



Upper airways inflammation



Lower airways inflammation

Asthma[3]

- Wheezing
- Shortness of breath
- Chest tightness
- Cough
- Expiratory airflow limitation

CRSwNP and asthma share common underlying pathophysiological mechanisms[1]

CRS, chronic rhinosinusitis; CRSsNP, CRS without nasal polyps; CRSwNP, CRS with nasal polyps.

1. Fokkens WJ, et al. *Allergy*. 2019;74:2312–19; 2. Chen S, et al. *Curr Med Res Opin*. 2020;36:1897–911; 3. Global Initiative for Asthma report, 2021. Available at www.ginasthma.org/wp-content/uploads/2021/05/GINA-Main-Report-2021-V2-WMS.pdf (accessed 19 August 2021).

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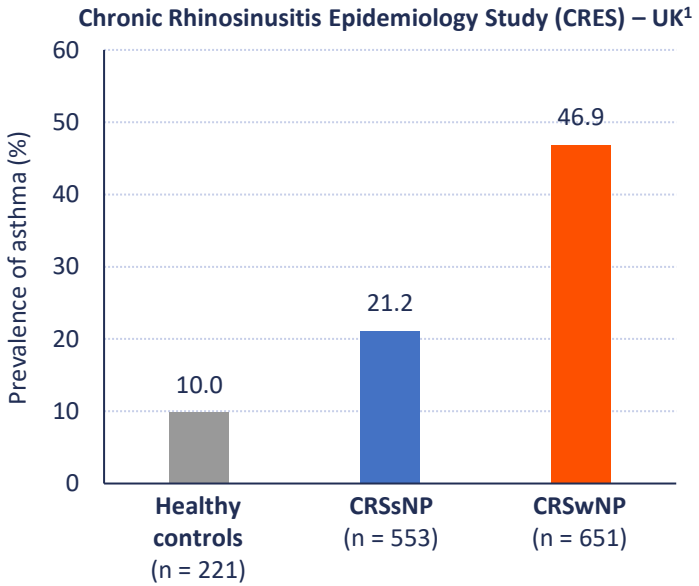
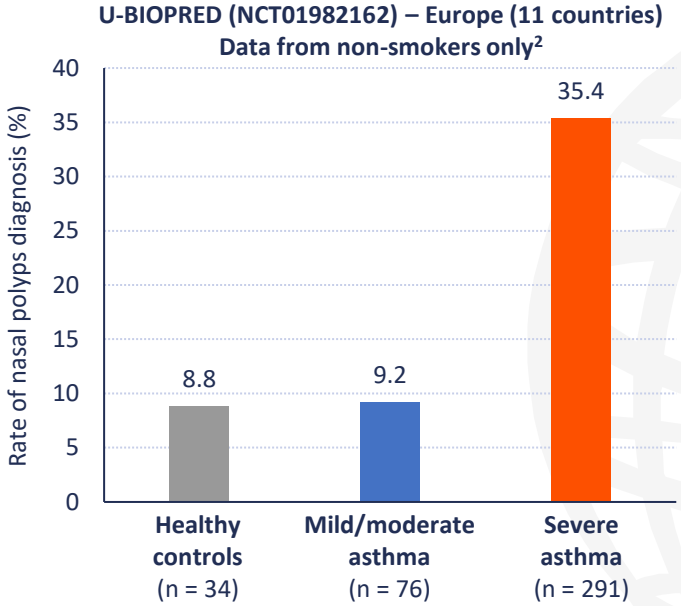
The comorbidity of CRSwNP and asthma





- There is a high prevalence of asthma in patients with CRSwNP[1]
- In patients with asthma, the severity of the disease is associated with increased risk of developing nasal polyps[2]

CRSsNP, chronic rhinosinusitis without nasal polyps; CRSwNP, chronic rhinosinusitis with nasal polyps.

1. Philpott CM, et al. *Respir Res*. 2018;19:129; 2. Shaw DE, et al. *Eur Respir J*. 2015;46:1308–21.

Clinical trial listed by its identifier at: ClinicalTrials.gov (accessed 17 September 2021).

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The management of CRSwNP and the problem of disease recurrence

Prof. Claire Hopkins

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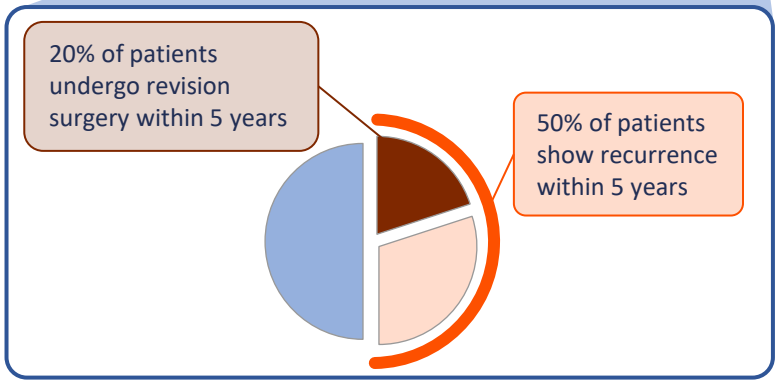
Management of CRSwNP and disease recurrence

Stepwise treatment for CRSwNP

ICS → OCS → Surgery → Disease recurrence

Failure to achieve disease control



Considerations for biological treatment

- Evidence of type 2 inflammation
- Need for systemic corticosteroids (≥2 courses in the past year)
- Significantly impaired quality of life
- Significant loss of smell
- Comorbid asthma

Dupilumab or omalizumab

CRSwNP, chronic rhinosinusitis with nasal polyps; ICS, inhaled corticosteroids; OCS, oral corticosteroids.

Fokkens WJ, et al. *Allergy*. 2019;74:2312–19.

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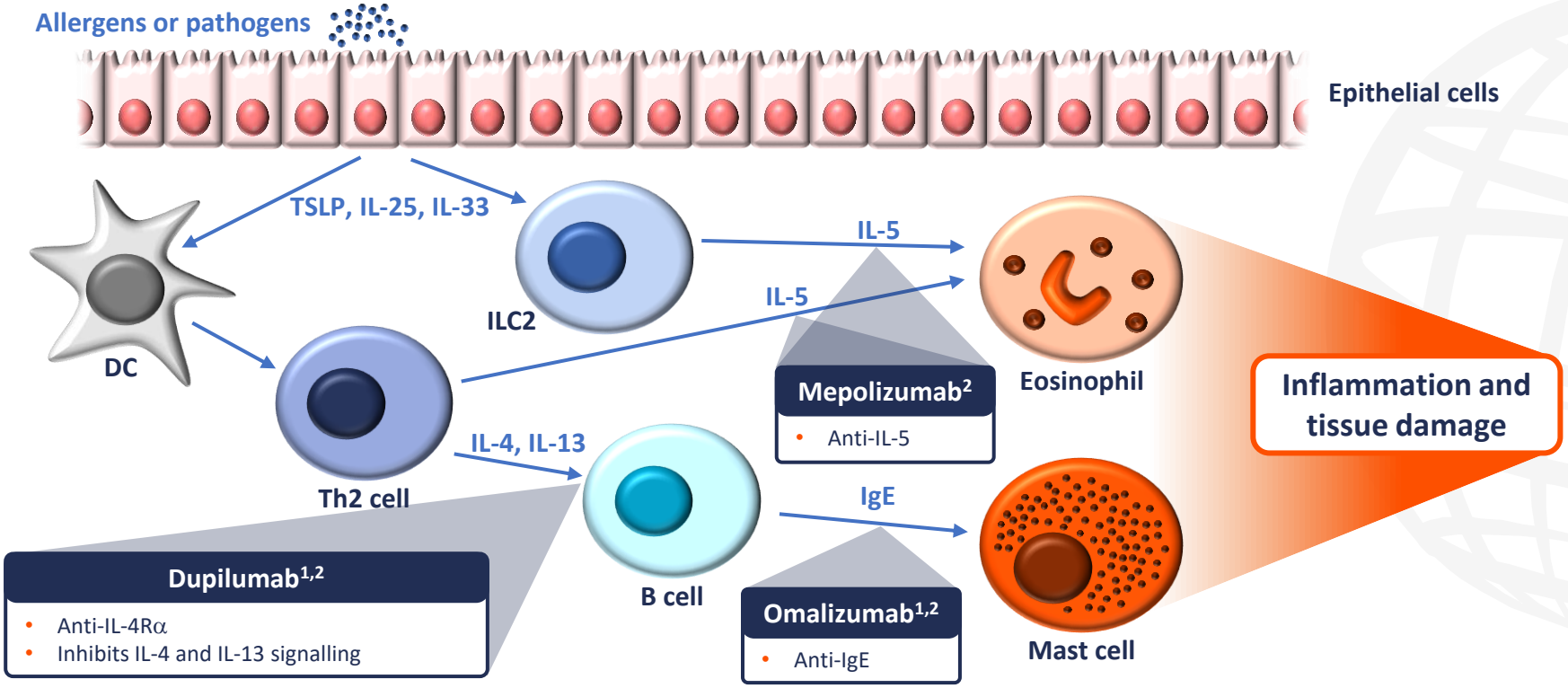
Biologics targeting type 2 inflammation in CRSwNP



CRSwNP, chronic rhinosinusitis with nasal polyps; DC, dendritic cell; IgE, immunoglobulin E; IL, interleukin; IL-4Rα, IL-4 receptor alpha; ILC2, type 2 innate lymphoid cell; Th2, T helper 2; TSLP, thymic stromal lymphopoietin.

1. Hulse KE, et al. *Clin Exp Allergy*. 2015;45:328–46; 2. Ahern S, Cervin A. *Medicina (Kaunas)*. 2019;55:95.

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The implications of recent clinical data for the use of biologics in CRSwNP

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Emerging biologics for CRSwNP: Summary of RCT data

Mepolizumab (anti-IL-5)[1]

SYNAPSE (NCT03085797), phase III

N=407

- Adult patients
- Recurrent, refractory, severe, bilateral nasal polyps

NPS improved at week 52

NPS

-0.73 (p<0.0001)

Nasal obstruction (VAS) improved between weeks 49 and 52

VAS

-3.14 (p<0.0001)

Mepolizumab compared with placebo

Benralizumab (anti-IL-5Rα)[2]

OSTRO (NCT03401229), phase III

N=410

- Adult patients
- Severe CRSwNP
- Symptomatic despite standard of care

NPS improved at weeks 40 and 56

NPS

(p<0.005 and p<0.05)

Benralizumab compared with placebo

Tezepelumab (anti-TSLP)[3]

***Post hoc* analysis of PATHWAY (NCT04851964), phase IIb**

n=82

- N=550 adult patients with severe asthma
- 15.2% of the study population had nasal polyps

Comparable AAER reduction at 52 weeks

Patients with nasal polyps

AAER

-75%

Patients without nasal polyps

AAER

-73%

Tezepelumab compared with placebo

AAER, annual asthma exacerbation rate; CRSwNP, chronic rhinosinusitis with nasal polyps; IL, interleukin; IL-5Rα, IL-5 receptor alpha; NPS, nasal polyps score; RCT, randomized controlled trial; TSLP, thymic stromal lymphopoietin; VAS, visual analogue scale.

1. Han C, et al. *Lancet Resp Med*. 2021; doi: 10.1016/S2213-2600(21)00097-7; 2. Bachert C, et al. Presented at EAACI Hybrid Congress 2021; Abstract #887;
3. Emson C, et al. *J Asthma Allergy*. 2021;14:91–9.

Clinical trials listed by their identifiers at: ClinicalTrials.gov (accessed 17 September 2021).

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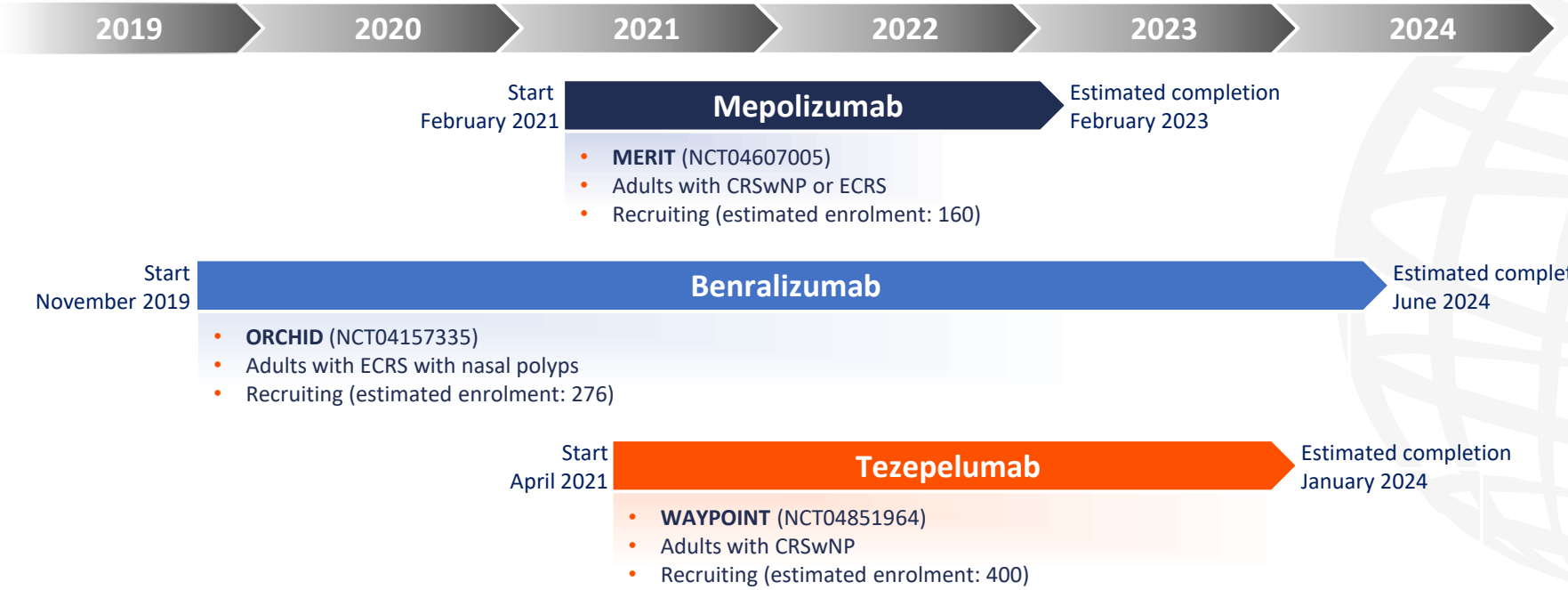
Emerging biologics for CRSwNP: Ongoing phase III RCTs



CRSwNP, chronic rhinosinusitis with nasal polyps; ECRS, eosinophilic chronic rhinosinusitis; RCT, randomized controlled trial.
Clinical trials listed by their identifiers at: ClinicalTrials.gov (accessed 17 September 2021).

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