UNKONTROLLIERTES ASTHMA

Wann muss der Patient in eine Spezialambulanz?

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Vienna / Austria

Karl Landsteiner Institute for
Clinical and Experimental Pneumology

DISCLOSURES

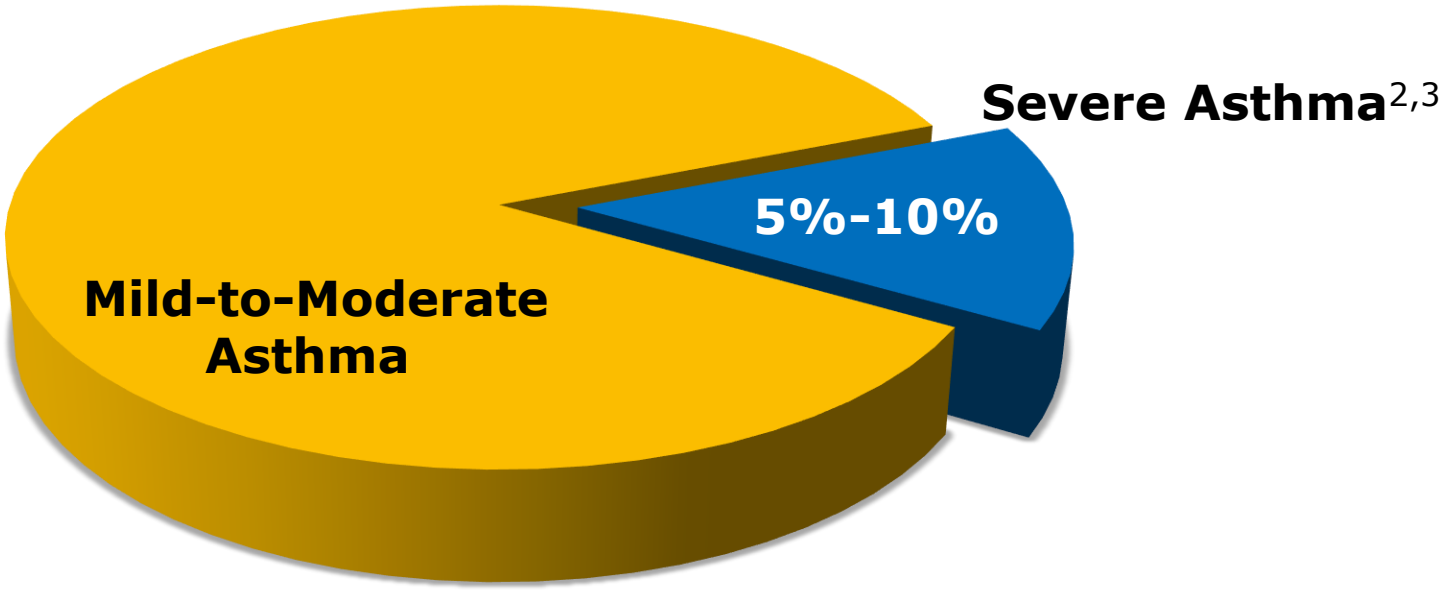
GRANTS and/or PERSONAL FEES in the last 5 years:

ASTRA ZENECA, BOEHRINGER INGELHEIM, CHIESI, GSK, GILEAD, MEDA, MedImmune
NOVARTIS, Roche, Sanova, TEVA

Severe Asthma

Estimated Prevalence, 2015

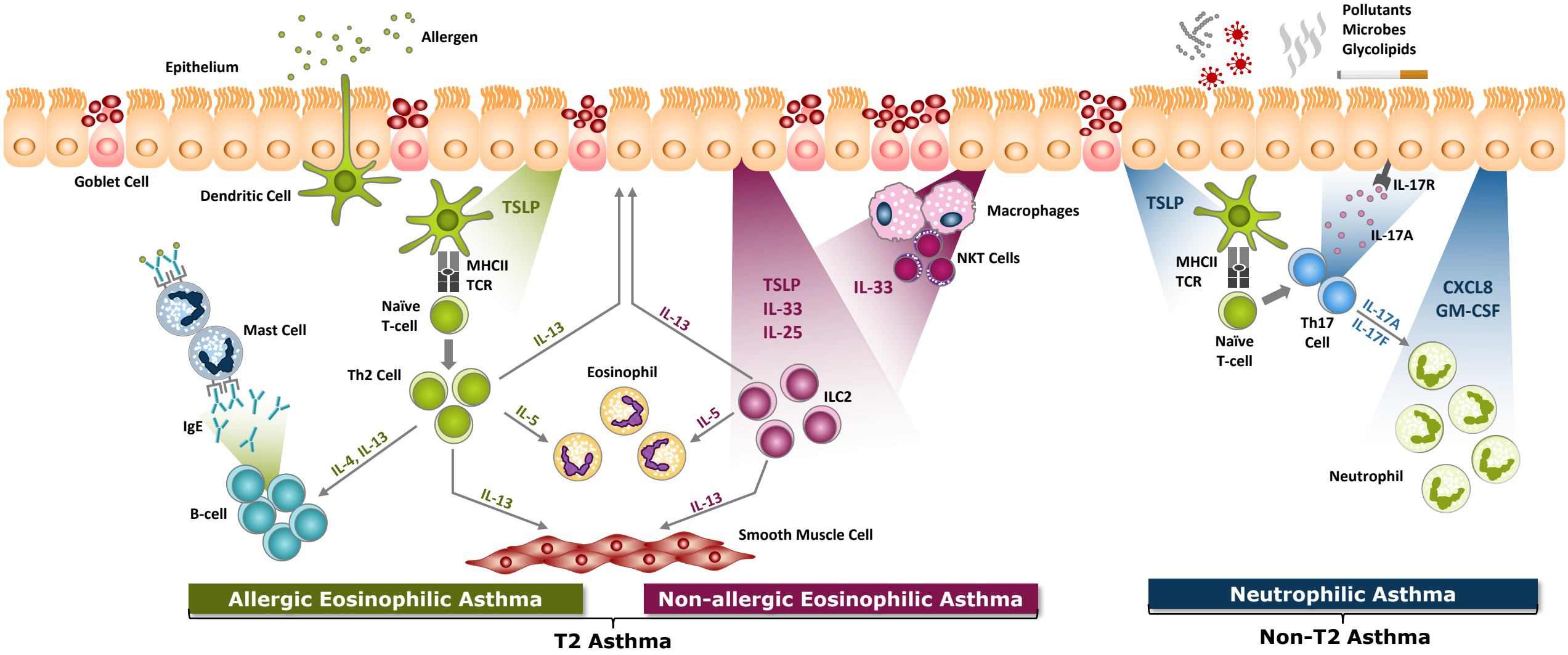
Nearly 25 Million Americans Have Asthma[1]



The actual number of patients fulfilling the criteria for severe asthma may be higher in clinical practice.[4]

1, Asthma in Adults Fact Sheet. American Lung Association. www.lung.org/lung-health-and-diseases/lung-disease-lookup/asthma/learn-about-asthma/asthma-adults-facts-sheet.html;2. Busse WW, et al. J Allergy Clin immunol. 2000; 10686): 1033-1042; 3. Lang DM. Allergy Asthma Proc. 2015; 36(8): 418-424; 4. Chung KF. et al. Eur Respir J. 2014; 43(2):343-373.

Asthma is a Heterogeneous Disease Involving Multiple Inflammatory Pathways

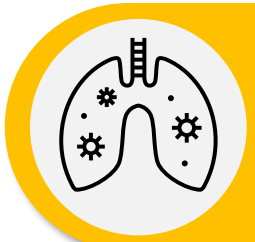


CXCL8 = C-X-C Motif Chemokine Ligand 8; *GM-CSF* = granulocyte-macrophage colony-stimulating factor; *IgE* = immunoglobulin E; *IL* = interleukin; *ILC2* = innate lymphoid cell 2; *MHC* = major histocompatibility complex; *NKT* = natural killer T cell; *R* = receptor; *TCR* = T-cell receptor; *T2* = Type 2; *Th* = T helper; *TSLP* = thymic stromal lymphopoietin.

Adapted from Brusselle G et al. Ann Am Thorac Soc. 2014;11:S322-S328 and Pelaia G et al. Nature Rev Drug Dis. 2012;11:958–972.

International ERS/ATS guidelines on definition, evaluation and treatment of severe asthma
Kian Fan Chung, Sally E. Wenzel et al.
Eur Respir J. 2014; 43: 343–373

SCHWERES ASTHA



Unter Therapie mit ICS in hoher Dosis + mindestens einem zusätzlichen Controller (LABA) oder oralen Glukokortikoiden > 6 Monate/Jahr

ERS/ATS guideline definition

BEFUNDE: UNKONTROLLIERTES ASTHMA

Schlechte Asthmakontrolle

ACQ≥1,5
ACT<20

Häufig Exazerbationen

>2/Jahr (systemisches Cortison)

Schwere Exazerbationen

mit Hospitalisierung (IMCU)

Persistierende Obstruktion

FEV1 < 80% SW

NAEPP, National Asthma Education and Prevention Program

IDENTIFIKATION NACH KLINIK

BEFUNDE

THERAPIE

(LETZTE 12 MONATE)

ASTHMA KONTROLLE

ENTSCHEIDUNGSHILFEN (KRITERIEN)

GINA steps 4–5[2]

MITTEL- BIS HOCH-DOSIERTES **ICS** PLUS **LABA**

OR

OCS

OCS > 50% LETZTE 12 MONATE

UNKONTROLLIERT

- HÄUFIGE SYMPTOME
- MEHRMALIGE EXAZERBATIONEN
- SCHWERE EXAZERBATIONEN
- EINGESCHRÄNKTE LUFU

OR

KONTROLLIERT

JEDOCH VERSCHLECHTERUNG BEI REDUKTION VON:

OCS, ICS, BIOLOGIKA

DIAGNOSE: SCHWERES ASTHMA

↓

PHÄNOTYPISIERUNG

↓

BIOLOGIKA?

1. Trevor JL & Chipps BE. Am J Med. 2018;131:484–491; 2. GINA. Global Strategy for Asthma Management and Prevention. 2018. Available from: ginasthma.org [accessed August 2018].

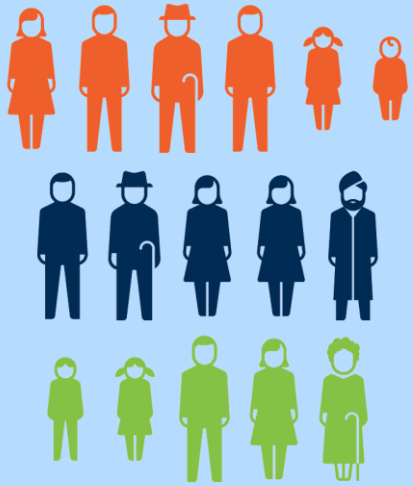
ASTHMA IST EINE KOMPLEXE HETEROGENE ERKRANKUNG

"disease management approach to precision medicine"

Heterogenität & Komplexität

PHÄNOTYPISIERUNG
IDENTIFIZIERT
UNTERSCHERSCHIEDLICHE
PATIENTENGRUPPEN..

Phänotyp



WELCHE PATIENTEN HABEN
GEMEINSAME KLINISCHE
UND/ODER **PATHOLOGISCHE**
CHARAKTERISTIKA

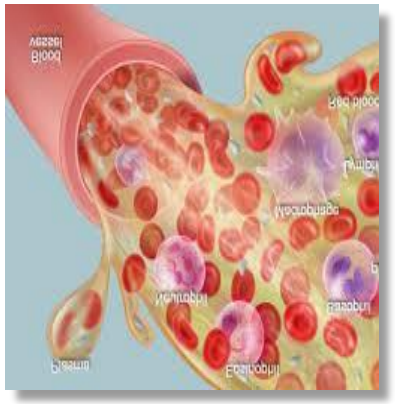
Personalisierte Behandlung

There is no 'one size fits all' treatment for severe asthma

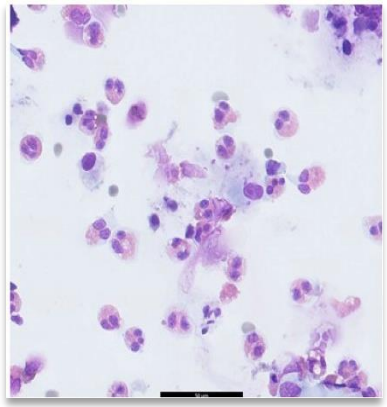
1. Wenzel SE. Nat Med. 2012;18:716–725; 2. Fajt ML & Wenzel SE. Allergy Asthma Immunol Res. 2017;9:3–14; 3. GINA. Global Strategy for Asthma Management and Prevention. 2018. Available from: ginasthma.org [accessed August 2018]; 4. Guilleminault L, et al. Eur Respir Rev. 2017; 26: 160010; 5. Wenzel S. Clin Exp Allergy. 2012;42:650–658.

Seeking Personalized Therapy

The Role of Biomarkers in Asthma Phenotyping



Blood eosinophils



Sputum eosinophils

FeNO

IgE

Kim MA, et al, Curr Opin Allergy Clin Immunol, 2014; 14(1): 49-54. Chung KF, Eur Respir J, 2014; 43(2): 343-373; Global Initiative for Asthma. Global Strategy for Asthma Management and Prevention, 2018. Available from: www.ginaasthma.org

PM-AT-MPL-PPTX-200018, 10/2020

Hat Ihr Patient ein Type 2 Asthma ?

- **Eosinophile im Blut ≥ 300/µl**

und / oder

- Eosinophile im Sputum ≥ 3%

und/oder

- **FeNO ≥ 40 ppb**

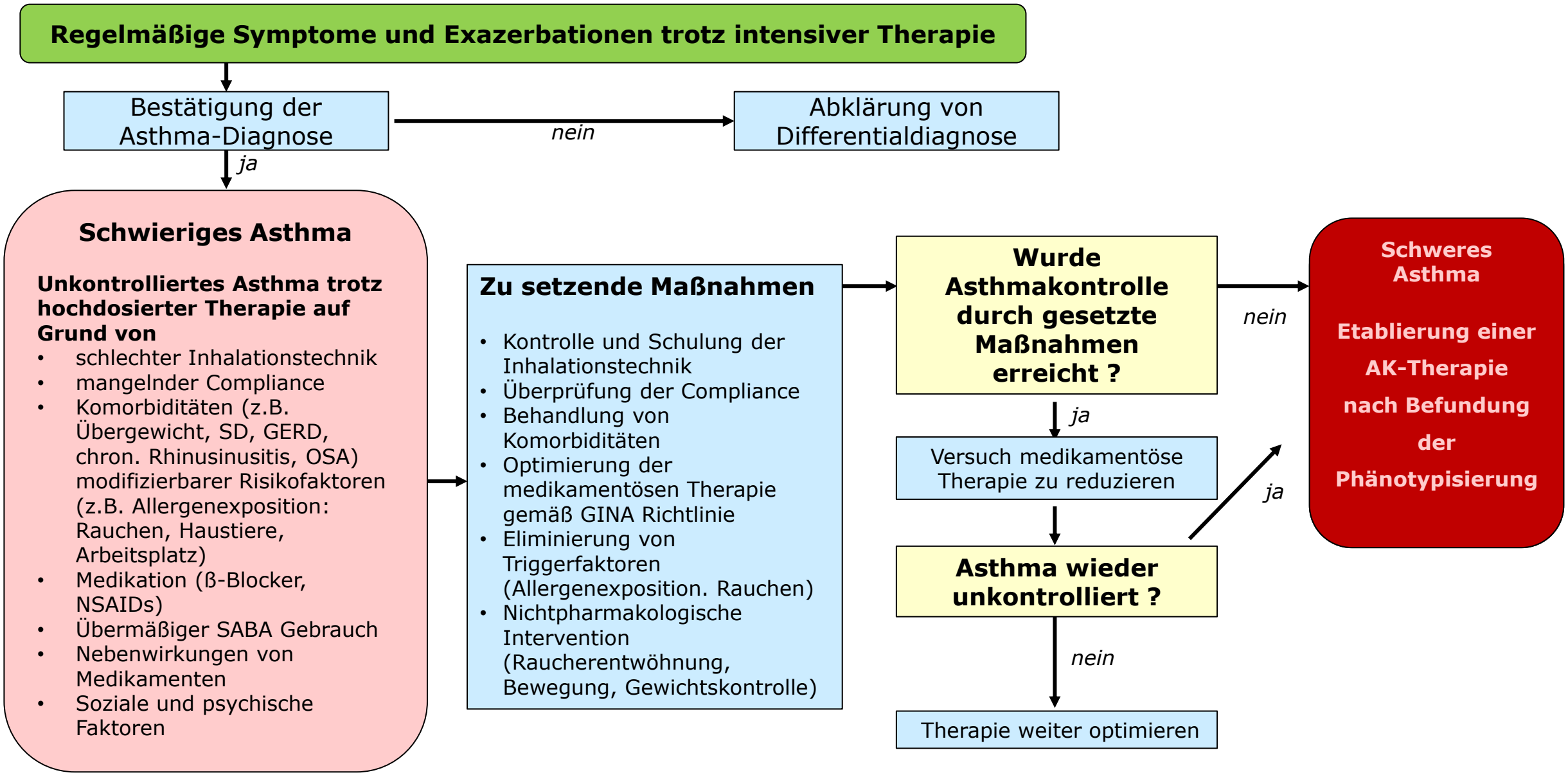
und / oder

- **Allergiebezug, Allergietest, spez. IgE**

Tests ggfs. unter Therapie mit der niedrigstmöglichen Dosis oraler Glukokortikoide wiederholen, evtl. Titration

https://ginasthma.org/ ADAPTED W.POHL

Abgrenzung des schweren Asthmas vom schwierigen Asthma



Modifiziert nach GINA Pocketguidelines, Adolescents and adults with difficult-to-treat and severe asthma, 2019

Interaktion AM-FA-Zentrum

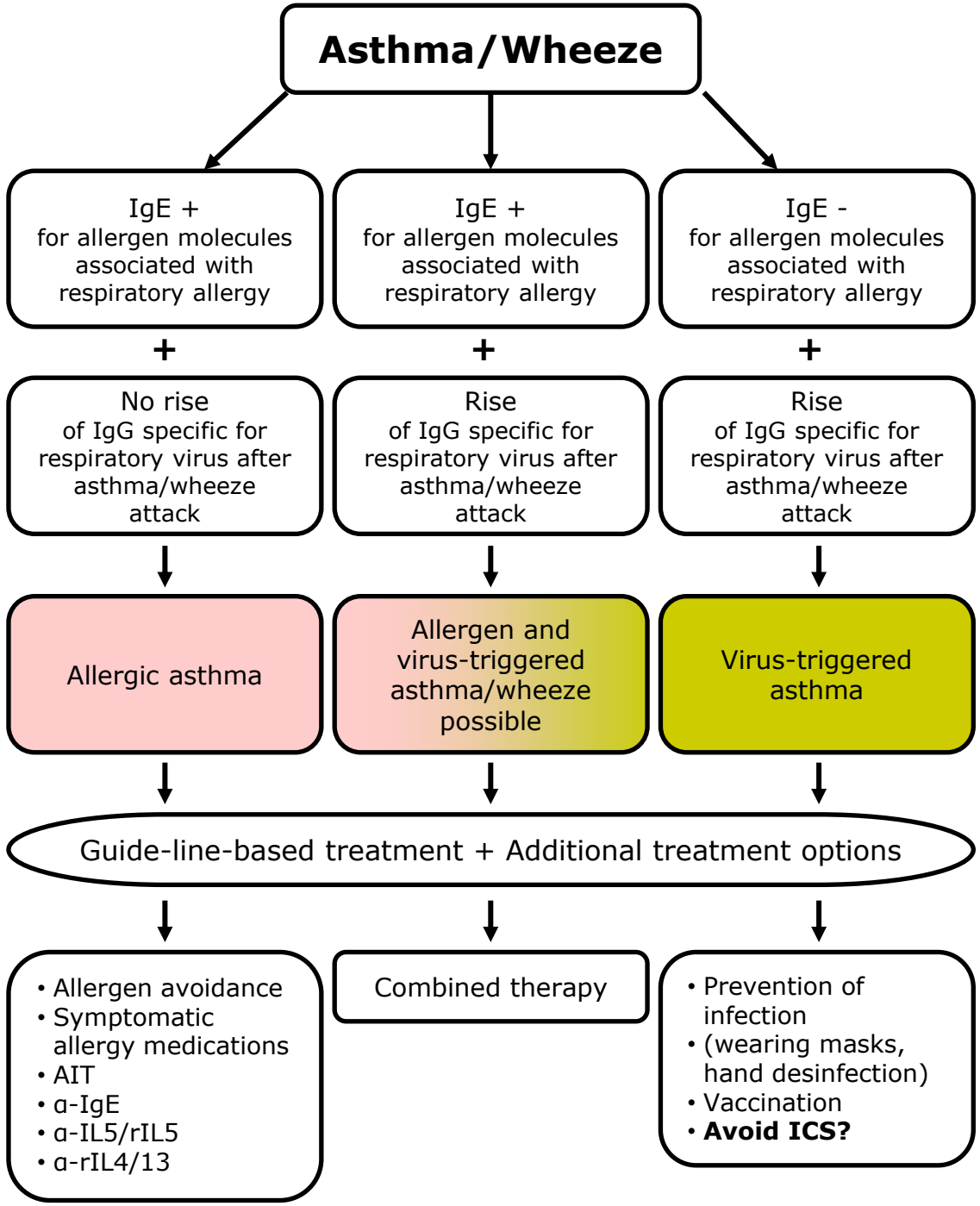
DIAGNOSEKONZEPT

ORDINATION

Therapie →
Verlaufskontrolle →
Asthmakontrolle?
weitere Diagnostik →
add-on Medikation →
Asthmakontrolle?

ZENTRUM

Weitere Diagnostik→
Blut-Biomarker (ALEX, Microchip)
Sptutumanalyse (Skopie)
Funktionsdiagnostik
Studien & EAP……



Towards personalization of asthma treatment according to trigger factors
Katarzyna Niespodziana, Rudolf Valenta et al.,
JACI online March 2020

How the identification of allergens and respiratory virus infections as triggers factors of asthma and wheeze could lead to personalization of asthma treatment by adding treatment options to guideline-based therapy

Interaktion AM-FA-Zentrum

DIAGNOSEKONZEPT

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Verlaufskontrolle →
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Weitere Diagnostik→
Biomarker (ALEX, Microchip)
Sputumanalyse (Skopie)
Funktionsdiagnostik
Studien & EAP……

ORDINATION

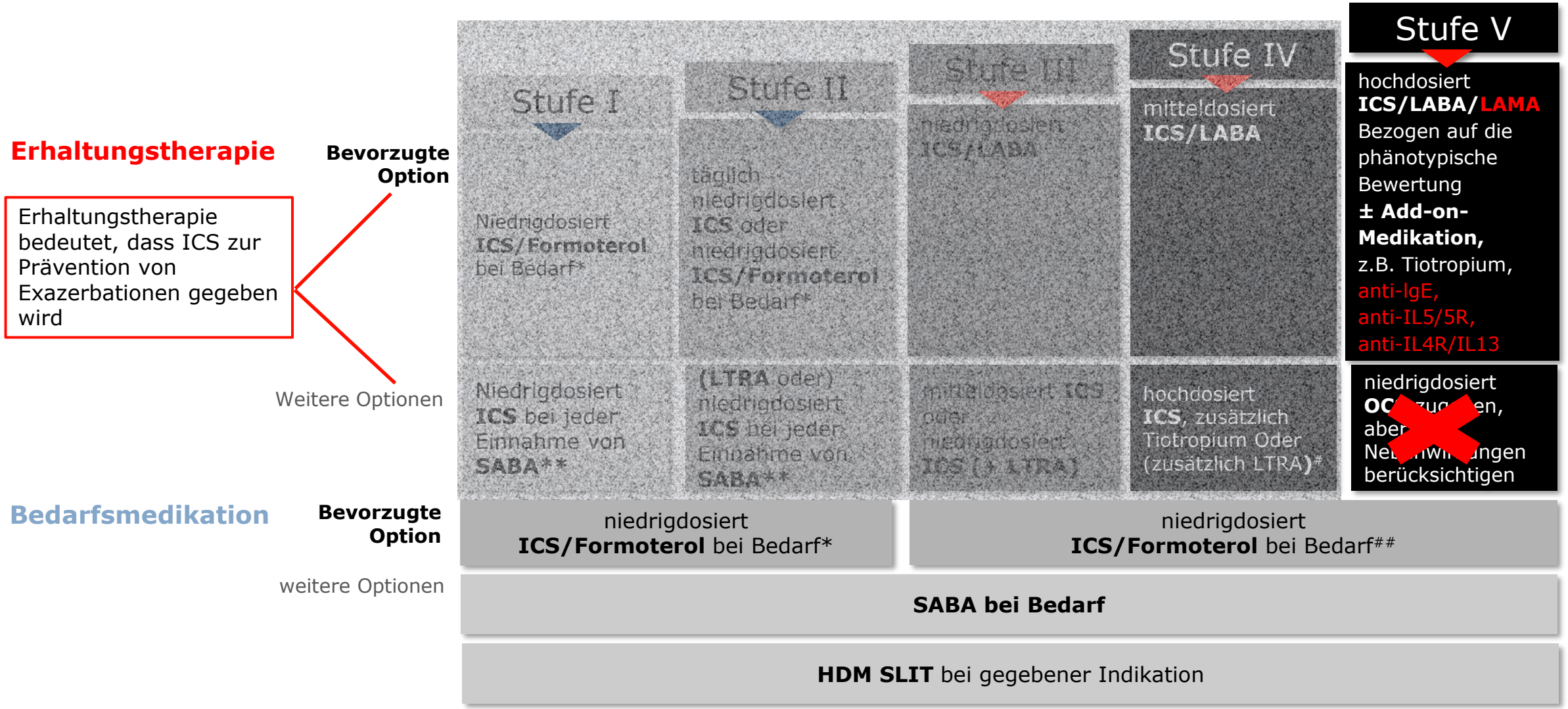
Verlaufskontrolle →
Asthmakontrolle?
….

Kontrolle im Zentrum:
Biomarker-Revaluierung

THERAPIE-OPTIMIERUNG: UNKONTROLLIERTES ASTHMA

Aktuelle Asthma-Therapie – GINA 2020[1]

Anpassung der Behandlung nach oben und unten an die individuellen Bedürfnisse des Patienten

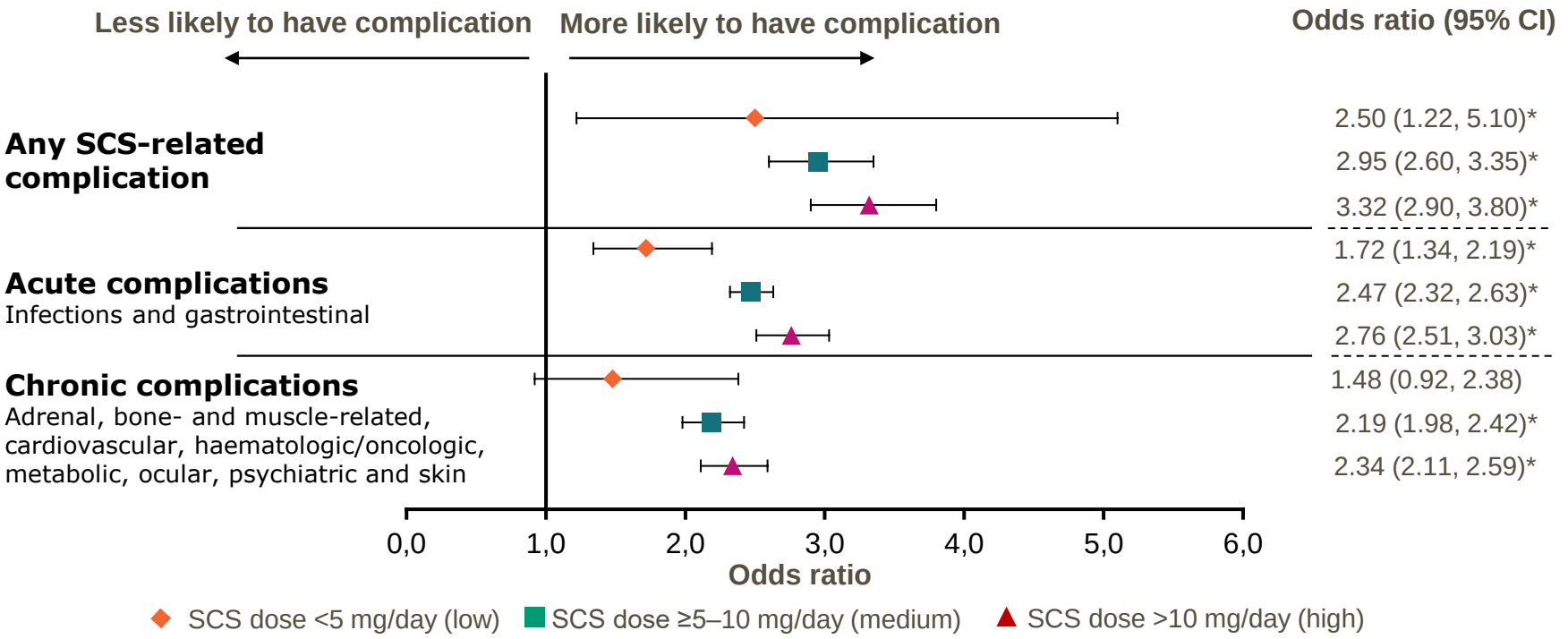


* Off-Label; Daten nur für Budesonid/Formoterol vorhanden. ** Off-Label; separat oder kombinierte ICS- und SABA-Inhalatoren. # HDM SLIT bei sensibilisierte Patienten mit allergischer Rhinitis und einem geschätzten FEV1 >70 % in Erwägung ziehen. ## Niedrigdosiert ICS/Formoterol ist die Bedarfstherapie bei Patienten, denen Budesonid/Formoterol oder Beclometason-Dipropionat/Formoterol als Erhaltungs- und Bedarfstherapie verschrieben wurde.

1. GINA Report. Global Strategy for Asthma Management and Prevention. Updated 2019. Verfügbar unter https://ginasthma.org/gina-reports/ (Letzter Zugriff: 02.05.2019).

Risiko eine akute oder chronische OCS Nebenwirkung zu erleiden ist dosisabhängig

Odds ratios von OCS bedingten Nebenwirkungen im Vergleich zu Patienten ohne OCS



Patienten mit niedrig-, mittel- und hochdosiertem OCS haben ein 2.50, 2.95 und 3.32 erhöhtes Risiko eine OCS-bedingte Nebenwirkung zu erleiden im Vergleich zu Patienten ohne OCS.

* $p < 0.05$ vs no SCS exposure. Error bars indicate 95% CI. Doses are prednisone or prednisone equivalent.
CI, confidence interval; *SCS,* systemic corticosteroid.

- *Results from matched study using a database of private insurance claims*

Dalal AA et al. *J Manag Care Spec Pharm.* 2016;22:833–847.

OCS Nebenwirkungen – schweres ASTHMA

93% SCHWERER ASTHMATIKER ZEIGEN NEBENWIRKUNGEN

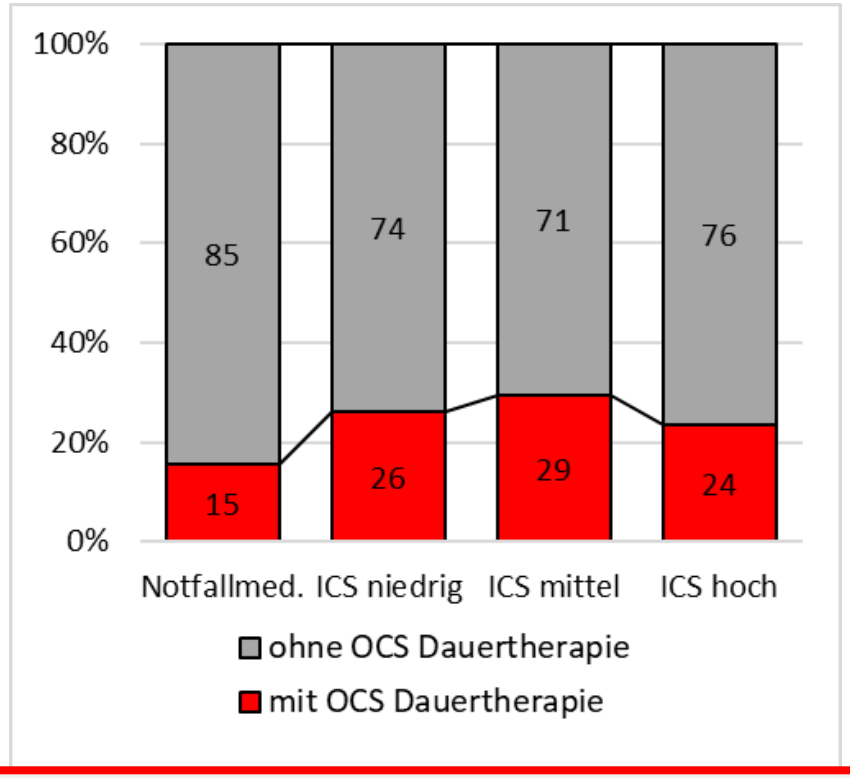
Compared with mild/moderate asthma:

• Diabetes (type II)	10% vs. 7% OR=1.46, p<0.01
• Osteoporosis	16% vs. 4% OR=5.23, p<0.001
• Dyspeptic disorders	65% vs. 34% OR=3.99, p<0.001
• Cataracts	9% vs. 5% OR=1.89, p<0.001

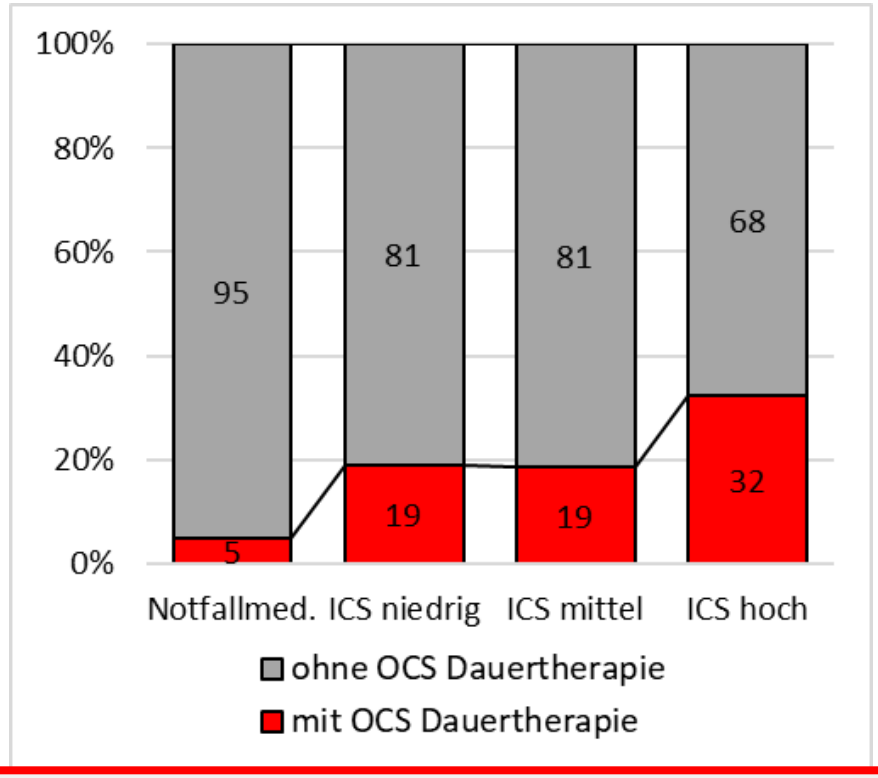
Lefebvre et al. JACI 2015; Sweeney et al., Thorax 2016; Choo & Pavord. Thorax 2016

Asthmapatienten mit OCS Erhaltungstherapie

GP



PULM



- **Ergebnisse vergleichbar mit internationalen Studien**
- **GP: OCS Einsatz unabhängig von inhalativer Therapie**
- **PULM: ~ 20-30% der Patienten mit mittel/hochdosierten ICS womöglich für ein Biologikum geeignet**

Patienten mit Antikörpertherapie beim Pulmologen wurden in der Umfrage ausgenommen

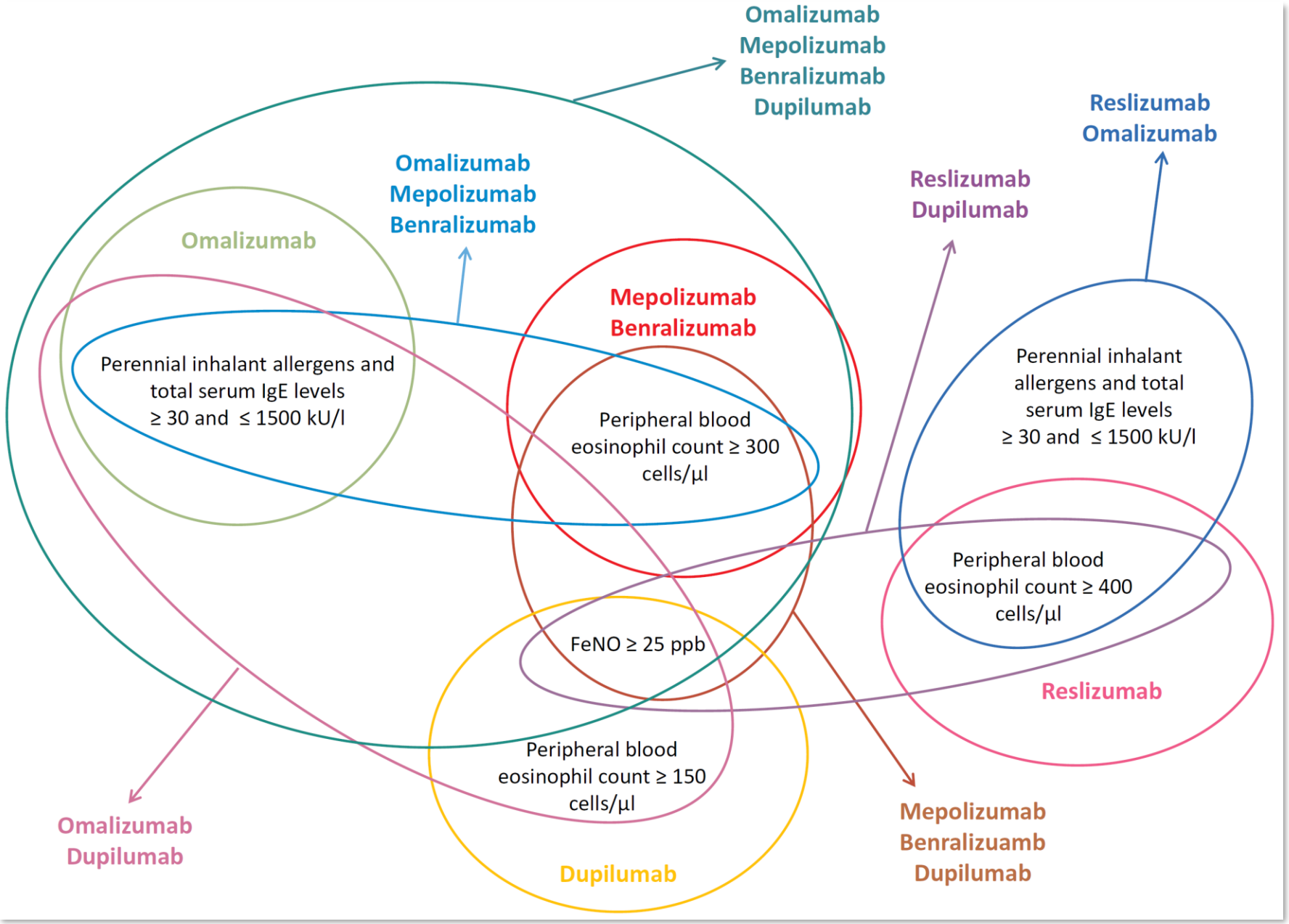
IQVIA Österreich, Umfrage bei Hausärzten und niedergelassenen Pulmologen, Juni – August 2019, in Zusammenarbeit mit GSK Österreich

Anti-IL5 Therapies for Severe Eosinophilic Asthma: Literature Review and Practical Insights

Francesco Menzella, Patrizia Ruggiero, Giulia Ghidoni, Matteo Fontana, Diego Bagnasco, Francesco Livrieri, Chiara Scelfo,Nicola Facciolongo

Journal of Asthma and Allergy 2020:13 301–313

Overlapping of biological drugs in the context of inflammatory phenotypes



Severe eosinophilic asthma treated with mepolizumab stratified by baseline eosinophil thresholds: a secondary analysis of the DREAM and MENSA studies

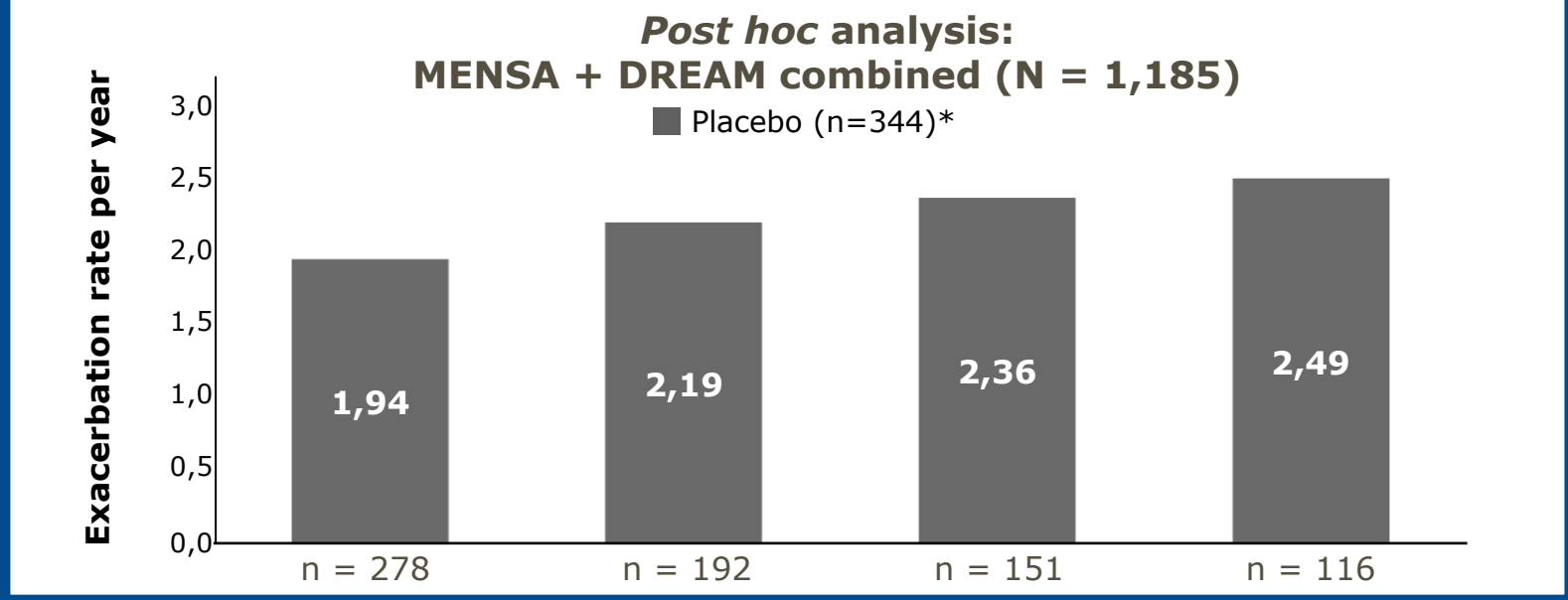
Hector G Ortega, Steven W Yancey, Bhabita Mayer, Necdet B Gunsoy, Oliver N Keene, Eugene R Bleecker, Christopher E Brightling, Ian D Pavord

Lancet Respir Med. 2016;4:549–556

Eosinophil levels are associated with frequent exacerbations

Eosinophile Inflammation (PBE) ist ein prädiktiver Parameter für ASTHMA-EXAZERBATIONEN

Eosinophils ≥150 cells/µL | Eosinophils ≥300 cells/µL | Eosinophils ≥400 cells/µL | Eosinophils ≥500 cells/µL



* Patients received placebo in addition to standard care (high-dose ICS plus ≥1 additional controller with or without daily oral corticosteroids).
NOTE: Mepolizumab data not shown (n = 841).

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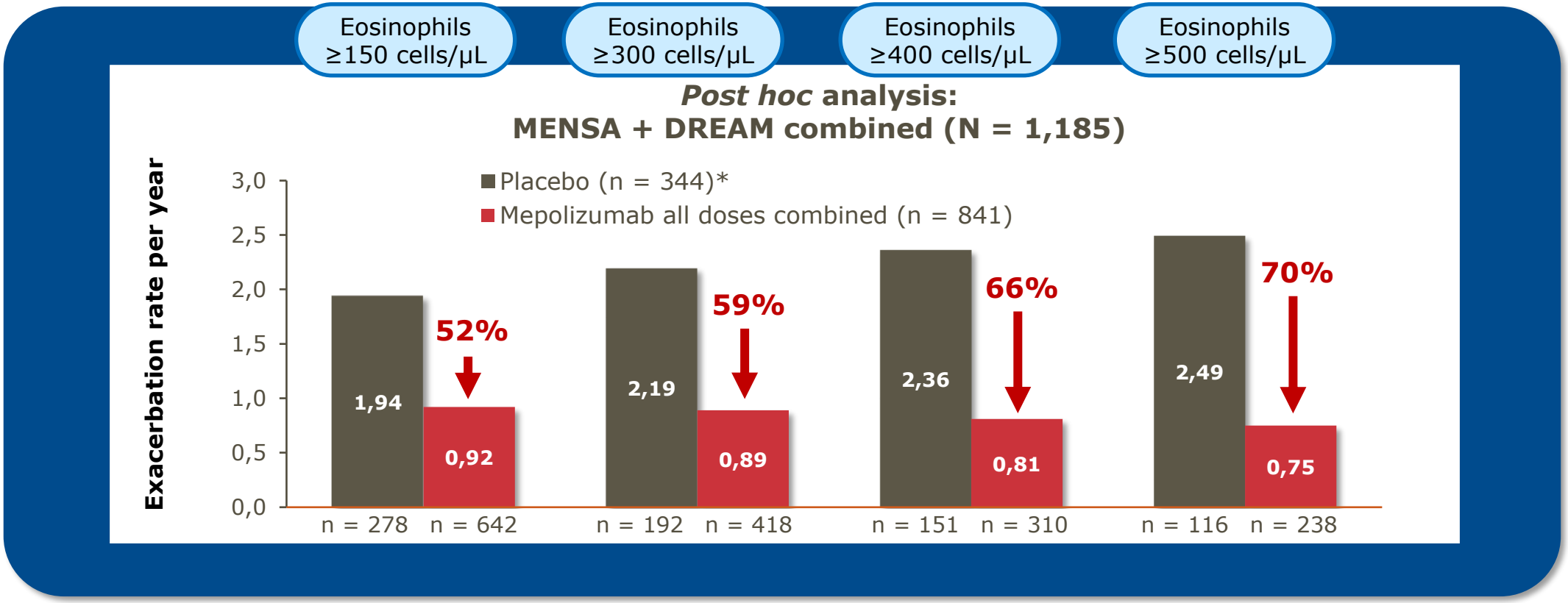
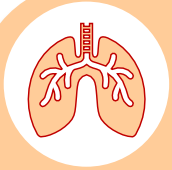


DREAM and MENSA post hoc analysis based on eosinophil count:
52% to 70% reduction in exacerbations seen with ≥150 cells/µL and ≥500 cells/µL, respectively

* Patients received placebo in addition to standard care (high-dose ICS plus ≥1 additional controller with or without daily oral corticosteroids).

Mepolizumab efficacy and safety was maintained for >4 years across RCTs and OLE studies*



Exacerbation reduction vs pre-treatment[1] ⬇**75%**

Pre-treatment rate/year: 3.17
Week >156-208 rate/year: 0.8

n = 170 patients with data ≥208 weeks

Steroid reduction vs baseline[2] ⬇**Up to 100%**

7/12 patients with 100% OCS reduction
Weeks 228-232 median OCS dose = 0.0

n = 14 patients with data at 232 weeks

Eosinophil reduction vs baseline[1] ⬇**78%**

Baseline: 240 cells/μL (1.02 cells/μL)†
Week 4-Week 228: 50 cells/μL (0.95 cells/μL)†

n = 44 patients with data at Week 228

No new safety signals identified[1,2]

For a list of contraindications, warnings and side effects for mepolizumab, see full prescribing information[3]

* The COSMEX study enroled a subset of patients from COSMOS with a history of life-threatening or seriously debilitating asthma and who had previously demonstrated clinical benefit from mepolizumab treatment.
† Geometric mean (SD logs).
OCS, oral corticosteroids; *OLE,* open-label extension; *RCT,* randomised controlled trial; *SD,* standard deviation.

1. Khatri S, et al. J Allergy Clin Immunol. 2019;143:1742–1751; 2. Khurana S, et al. Clin Ther. 2019;41:2041–2056.e5;
3. GlaxoSmithKline. Nucala. SmPC. 2019.

Real-World Experience Helps Confirm and Complement Clinical Trial Data

Karl Landsteiner Institute for Clinical and Experimental Pneumology
Wolfgang Pohl, Andreas Renner, Katharina Marth, Karin Patocka

Patients with severe eosinophilic asthma benefit from the treatment with anti-IL-5 *Reslizumab*
ERS 2018 Paris

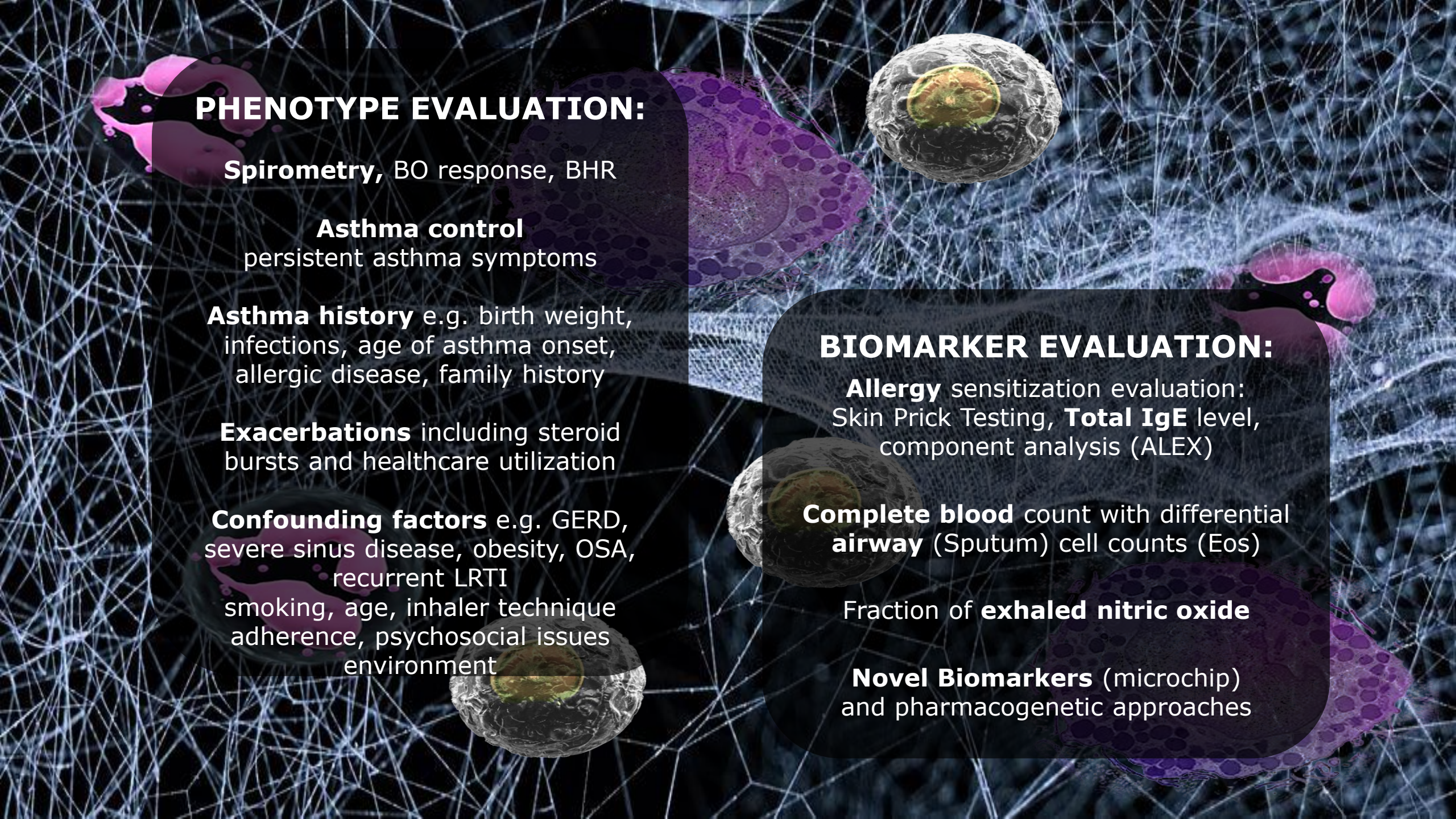
Reslizumab in an invasively ventilated patient with acute respiratory failure
J Allergy Clin Immunol Pract, 2019

COVID-19 in a severe eosinophilic asthmatic receiving *Benralizumab* – a case study.
J. Asthma 2020

Benralizumab rapidly improves asthma control in Austrian real-life severe eosinophilic asthmatics.
Allergy 2020

COVID-19 in two severe asthmatics receiving *Benralizumab*: busting the eosinophilia myth
ERJ open research 2020

Effectiveness of *Mepolizumab* therapy in patients with severe eosinophilic asthma Asthma: Austrian real-life data
Pulmonary Pharmacology and Therapeutics 2020



PHENOTYPE EVALUATION:

Spirometry, BO response, BHR

Asthma control
persistent asthma symptoms

Asthma history e.g. birth weight, infections, age of asthma onset, allergic disease, family history

Exacerbations including steroid bursts and healthcare utilization

Confounding factors e.g. GERD, severe sinus disease, obesity, OSA, recurrent LRTI
smoking, age, inhaler technique adherence, psychosocial issues environment

BIOMARKER EVALUATION:

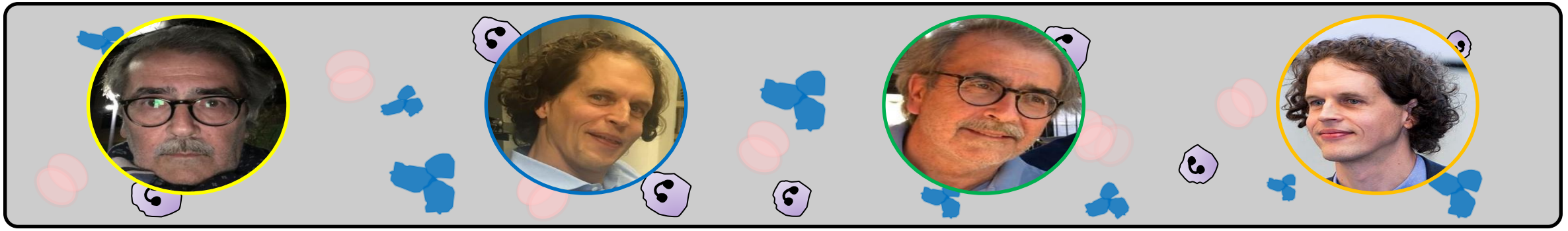
Allergy sensitization evaluation: Skin Prick Testing, **Total IgE** level, component analysis (ALEX)

Complete blood count with differential **airway** (Sputum) cell counts (Eos)

Fraction of **exhaled nitric oxide**

Novel Biomarkers (microchip) and pharmacogenetic approaches

The Spectrum of Patients* With Type 2 Inflammation in Asthma Present With a Broad Range of Characteristics



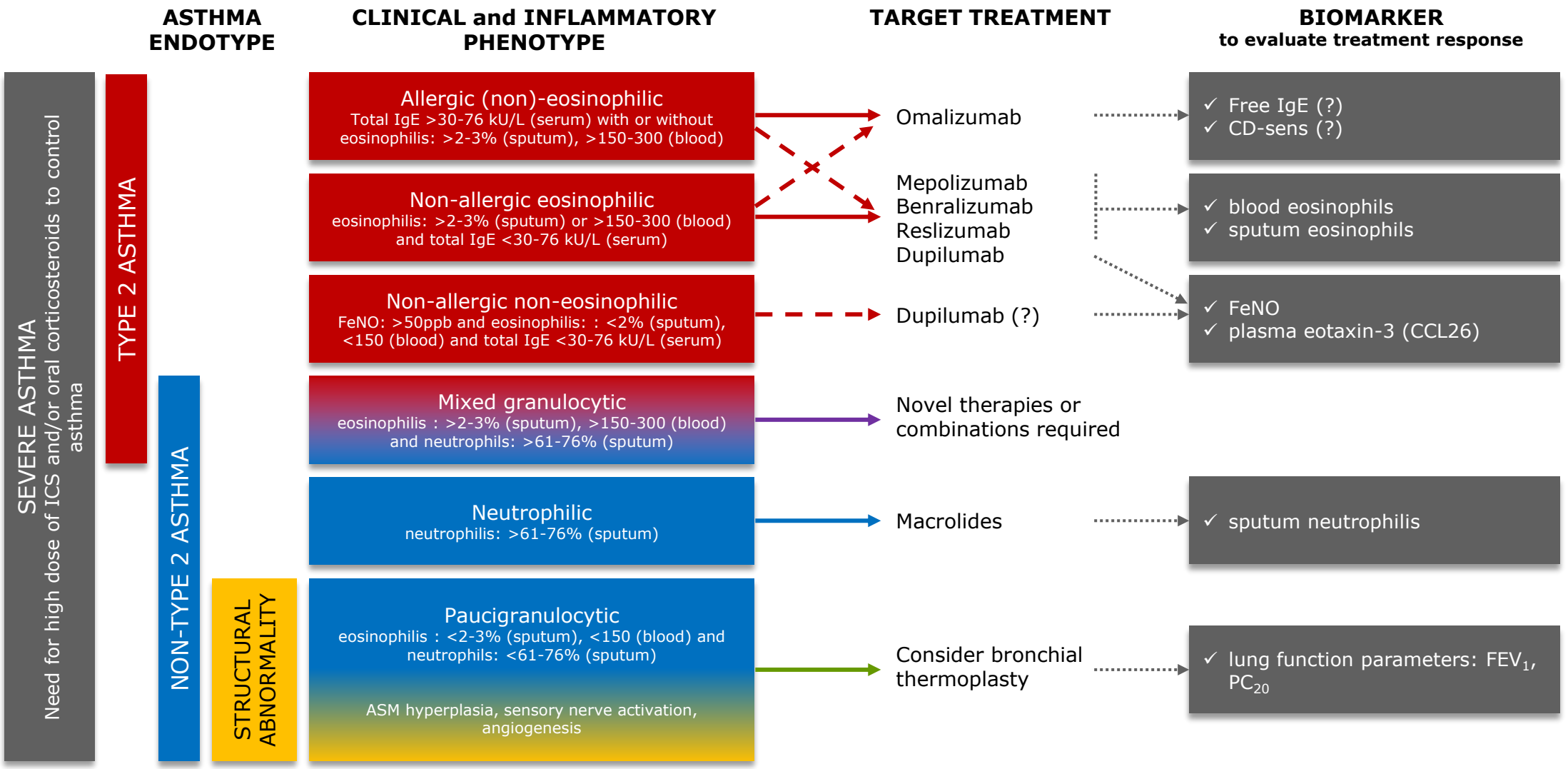
Blood EOS	FeNO	Total IgE	Exacerbations in prior year	Lung function	Treatment
160 Cells/µL	35 ppb	170 IU/mL	2	70% FEV_1	High –dose ICS/LABA + LTRA Allergens (dust mites, cats)
440 Cells/µL	25 ppb	40 IU/mL	3	60% FEV_1	High –dose ICS/LABA + LTRA
300 Cells/µL	60 ppb	35 IU/mL	3	50% FEV_1	High –dose ICS/LABA + LAMA
110 Cells/µL	20 ppb	380 IU/mL	4	50% FEV_1	High –dose ICS/LABA + LTRA + **daily OCS use**

Adapted:W.Canoncia unmet treatment needs in uncontrolled severe asthma ERS-Congress 2019, Madrid

EOS=eosinophil; *FeNO*=fractional exhaled nitricoxide; *FEV_1*=forced expiratory volume in 1 second; *ICS*=inhaled corticosteroid; *IgE*=immunoglobulin E; *LABA*=long-acting ß-agonists; *LAMA*=long-acting muscarinic-antagonists; *Hypothetical patient profiles

Towards clinically applicable biomarkers for asthma – An EAACI position paper
Zuzana Diamant, Sven F. Seys et al.,
doi: 10.1111/all.13806

Practical flow chart to targeted treatment options for severe asthma according to asthma endotype and applicable biomarkers



Effectiveness of Mepolizumab Therapy in Patients with Severe Eosinophilic Asthma: Austrian real-life data.

Andreas Renner, Katharina Marth, Karin Patocka, Marco Idzko, Wolfgang Pohl

Pulmonary Pharmacology & Therapeutics 2020, online

Baseline demographic and clinical characteristics

Characteristic	Baseline (N=35) [a]
Age (y)	57.4 [40-80]
Female sex; Patients [%]	21 [60.0]
BMI [kg/m^2]	25.7 [16.8-35.4]
Years since asthma diagnosis	16.5 [1-45]
Exacerbations (last 12 months) [c]	6 [2-12]
OCS as maintenance at baseline; Patients, [%]	22 [62.9]
OCS dose at baseline [mg]	9.3 [0-25]
Ex-smoker; Patients [%]	24 [68.6]
Recorded Allergy; Patients [%]	14 [40]
Cardial Comorbidity; Patients [%]	9 [25.7]
Diabetes; Patients [%]	3 [8.6]
FEV1 at baseline [L]	1.75 [0.82-3.68]
Eosinophils at baseline [x10^9/L]	0.37 [0-0.98]
ACT score at baseline	14.5 [6-25]
FENO at baseline [ppb]	46.6 [5-244]

[a] Mean values; range given in brackets

[b] Abbreviations: *ACT,* asthma control test; *BMI,* body mass index; *Eosinophils,* peripheral blood eosinophils count; *FEV_1,* prebronchodilator forced expiratory volume in 1 second; *FENO,* fractionated exhaled nitric oxide; *OCS,* oral corticosteroid prescription (prednisone or equivalent)

[c] Exacerbations defined as worsening of asthma symptoms requiring a course of rescue oral corticosteroids, increase in the maintenance steroid dose, emergency department visit, or hospitalization

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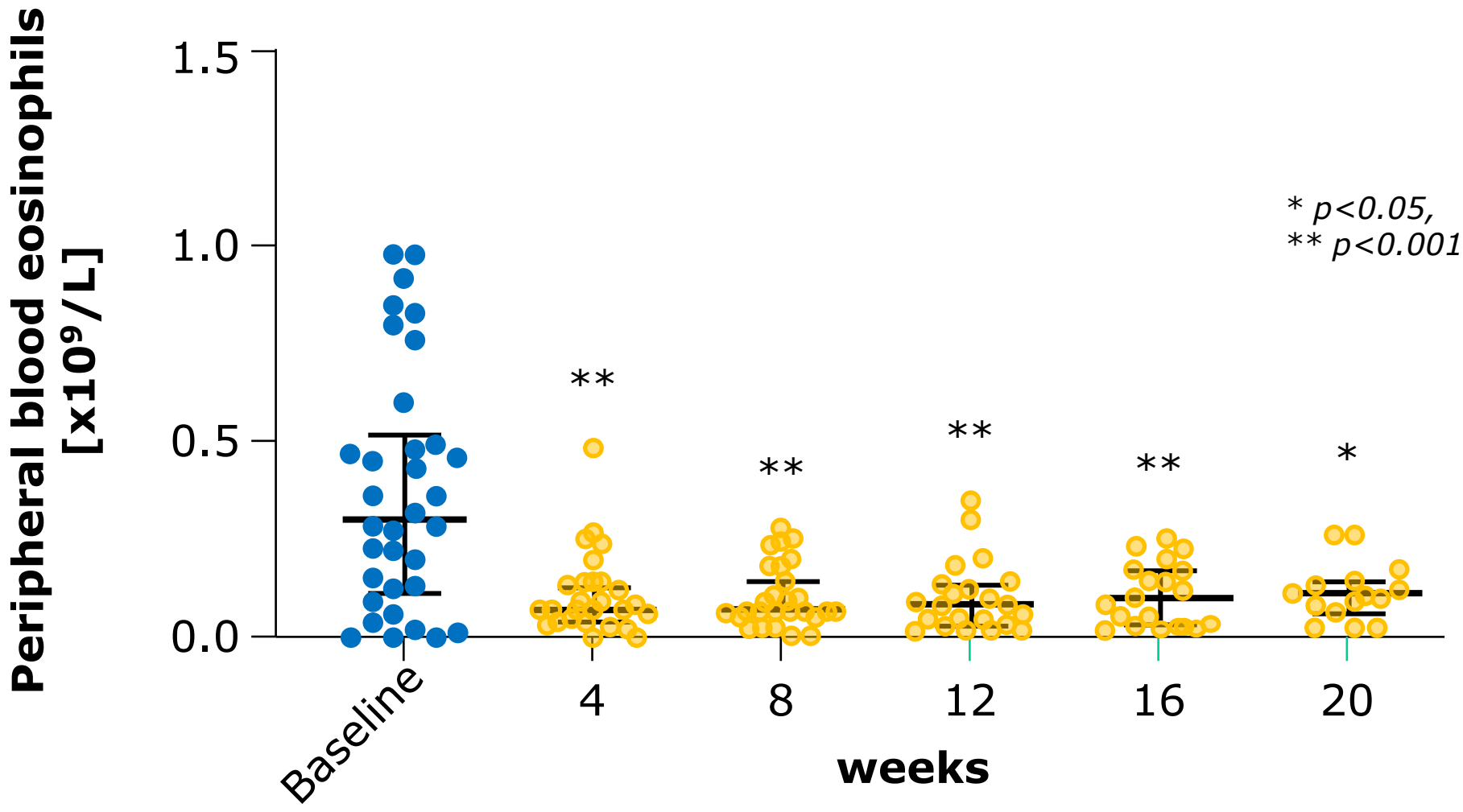
Eosinophils



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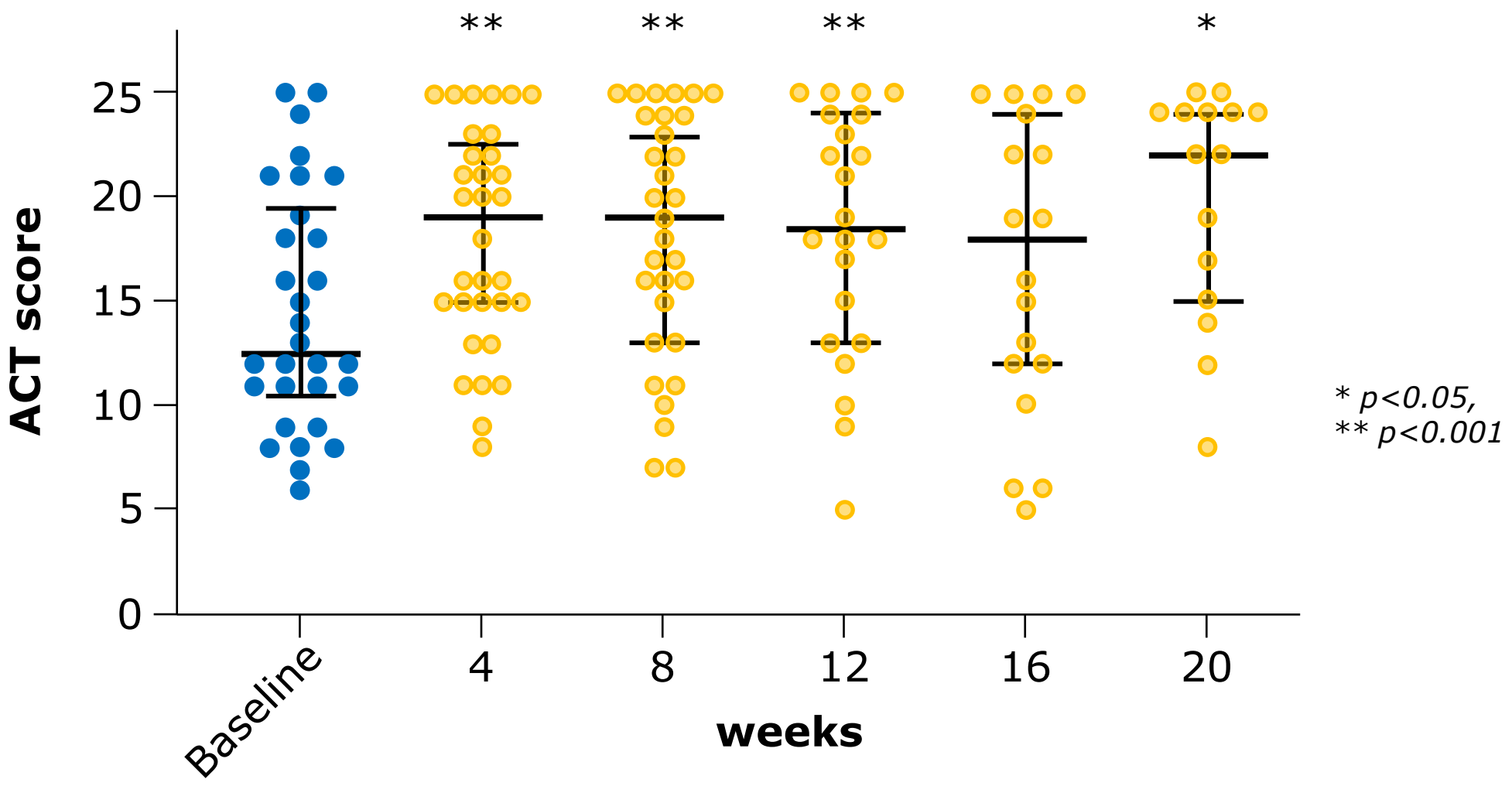
Pulmonary Pharmacology & Therapeutics 2020, online

Asthma control test



Effectiveness of Mepolizumab Therapy in Patients with Severe Eosinophilic Asthma: Austrian real-life data.

Andreas Renner, Katharina Marth, Karin Patocka, Marco Idzko, Wolfgang Pohl

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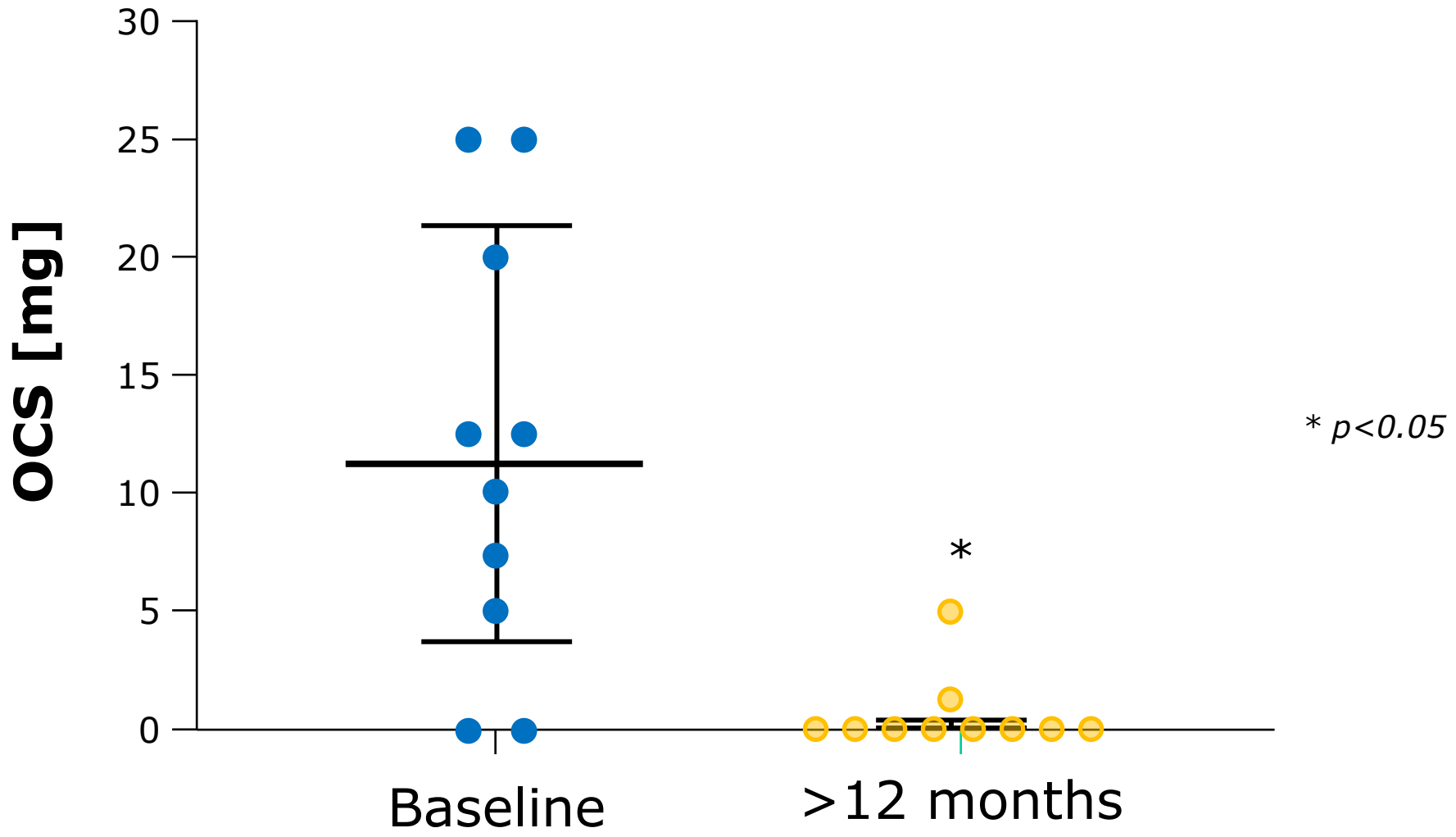
Long-term OCS



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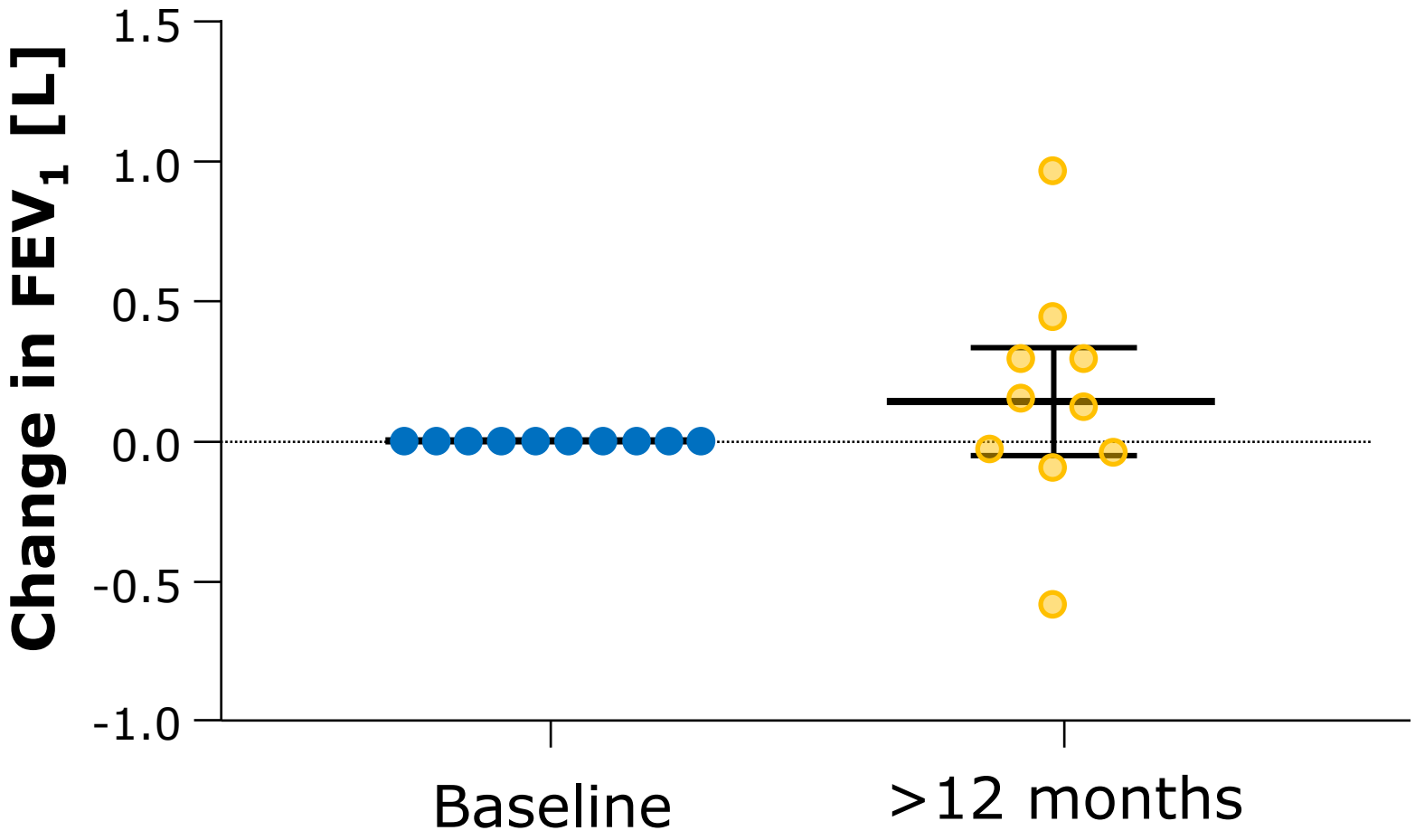
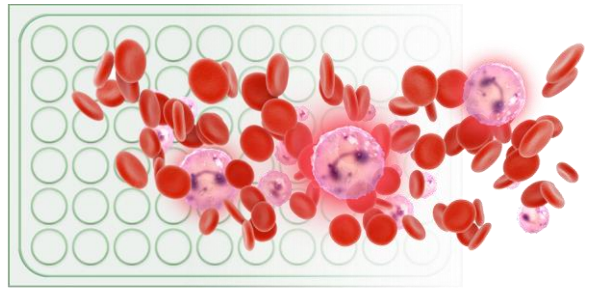
Long-term FEV_1



EOSINOPHILES ASTHMA

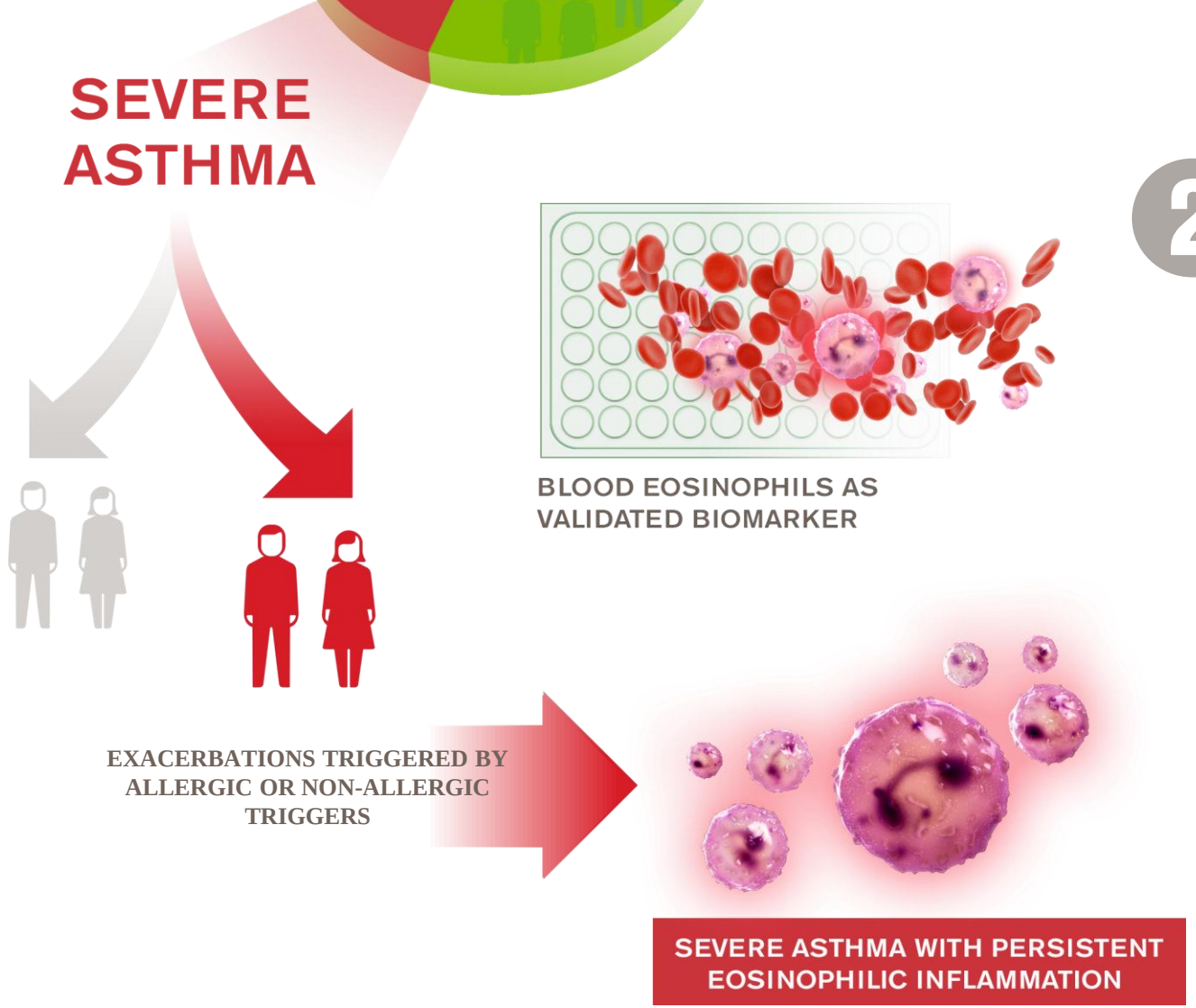


BLOOD EOSINOPHILS AS VALIDATED BIOMARKER

1

Schweres Asthma ist eine **komplexe**, **heterogene** Erkrankung. Eine genaue **Phänotypisierung** ist essentiell für die Etablierung einer individuellen Therapie. **Blut-Eosinophile** sind valide, **prädiktive** Biomarker für Behandlungs Strategien und Therapieerfolg.

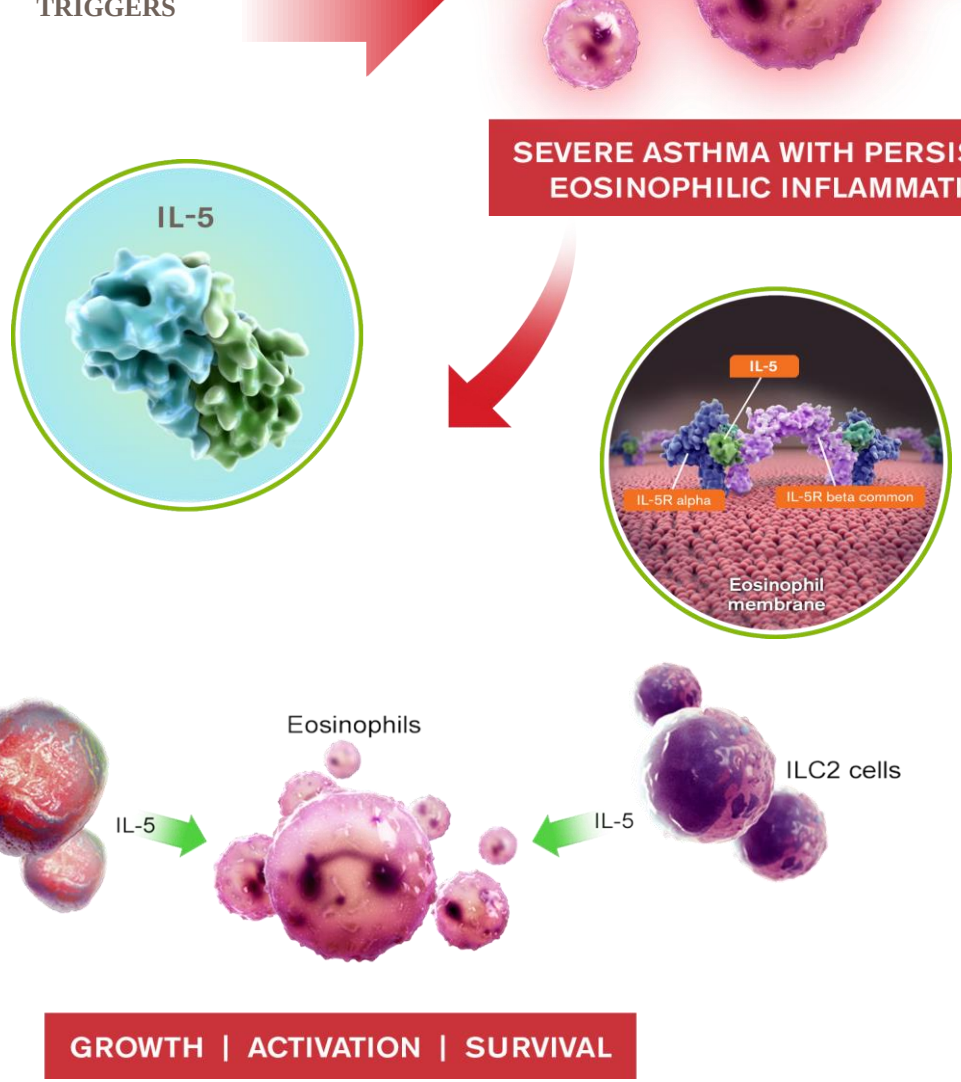
1. Wenzel SE. Nat Med. 2012;18:716–725; 2. Chung KF, et al. Eur Respir J. 2014;43:343–373; 3. Spahn J, et al. J Allergy Clin Immunol. 2002;109(5 Suppl):S490–S502; 4. Pavord ID, et al. Lancet. 2012;380:651–659; 5. Ortega HG, et al. N Engl J Med. 2014;371:1198–1207; 6. Bel EH, et al. N Engl J Med. 2014;371:1189–1197; 7. Yancey SW, et al. J Allergy Clin Immunol. 2017;140:1509–1518.



2

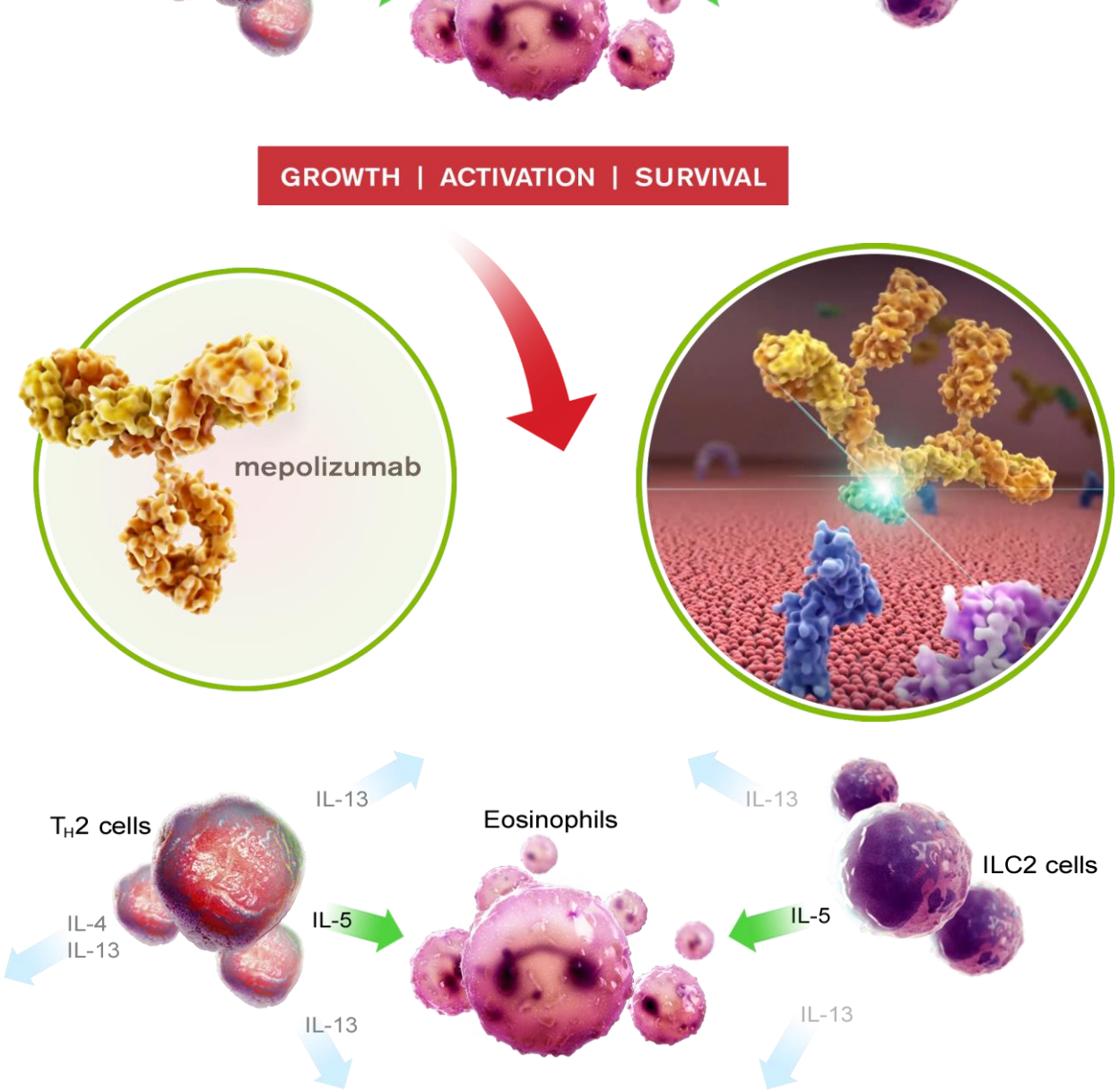
Der Großteil von Asthmatiker zeigen eine **persistierende** Eosinophilie, die mit häufigen **Exazerbationen** verbunden ist und mit einer deutlich eingeschränkten **Lebens-qualität** einhergeht.

1. Wenzel SE, et al. Am J Respir Crit Care Med. 1999;160:1001–1008; 2. de Carvalho-Pinto RM, et al. Resp Med. 2012;106:47–56; 3. Haldar P, et al. Am J Respir Crit Care Med. 2008;178:218–224; 4. Pavord ID & Bafadhel M. J Allergy Clin Immunol. 2013;132:828–829; 5. Bradding P & Green RH. Curr Opin Allergy Clin Immunol. 2010;10:54–59; 6. Kupczyk M, et al. Clin Exp Allergy. 2014;44:212–221.



IL-5 steuert die Aktivierung, Wachstum und Überlebensdauer der Eosinophilen; die **Blockade** von IL-5 reduziert die **eosinophile Inflammation.**

1. Brusselle GG, et al. Nat Med. 2013;19:977–979; 2. Lambrecht BN & Hammad H. Nat Immunol. 2015;16:45–56; 3. Garcia G, et al. Eur Respir Rev. 2013;22:251–257; 4. Fulkerson PC & Rothenberg ME. Nat Rev Drug Discov. 2013;12:117–129.



4

Blut **Eosinophile** sind wichtige **Biomarker** für die gezielte Identifikation von Patienten, die von einer **anti-IL-5 Therapie** profitieren. Es kommt zu einer signifikante und konsistente **Reduktion** von **Exazerbationen**, der Bedarf von **systemischen OCS** kann **signifikant reduziert** werden und es kommt zu einer signifikanten **Verbesserung** der **Lebensqualität** von Patienten mit **schwerem eosinophilen Asthma.**

1. Pavord ID, et al. Lancet. 2012;380:651–659; 2. Ortega HG, et al. N Engl J Med. 2014;371:1198–1207; 3. Bel EH, et al. N Engl J Med. 2014;371:1189–1197; 4. Yancey SW, et al. J Allergy Clin Immunol. 2017;140:1509–1518; 5. Ortega HG, et al. Lancet Respir Med. 2016;4:549–556; 6. Chupp GL, et al. Lancet Respir Med. 2017;5:390–400; 7. Nucala. PI. GlaxoSmithKline. December 2017; 8. Nucala. SmPC. GlaxoSmithKline. 29 August 2018; 9. Galkin D, et al. AAAAI/WAO Joint Congress 2018. #L30; 10. Albers F, et al. AAAAI/WAO Joint Congress 2018. #L29; 12. GlaxoSmithKline. Data on file. RF/NLA/0040/18.

Schweres Asthma leicht gemacht

Diagnose Schweres Asthma	Inhalationstechnik, Therapietreue, Komorbiditäten, Risikofaktoren
Adäquate Therapie	Hohe Dosis ICS + LABA + LAMA
Phänotypisierung	Anamnese, Funktionstests, Biomarker, Indikation Biologika
Therapieevaluation Verlaufsbeurteilung	Asthma-Kontrolle, Exazerbationen, Funktionstests, Medikation

https://ginasthma.org/

Hintergrund und Zielsetzung
UNCOVER STUDY

UNCOVER STUDY

Im Rahmen der Uncover-Studie soll untersucht werden, ob AsthmapatientInnen von einer erweiterten Therapie (mit Biologika) profitieren könnten.

Gesucht werden Patienten mit Asthma, das mit der derzeitigen Therapie nicht ausreichend kontrolliert ist.

Voraussetzungen:

- Mindestalter 18 Jahre
- Diagnostiziertes Asthma
- Unzureichende Asthmakontrolle in Form von häufigen Symptomen oder Verschlechterungen des Asthmas

UNCOVER STUDY

Ablauf der Studie:

- Genaue Untersuchung aller Asthmaparameter
- Detaillierte Befundbesprechung
- Empfehlungen für eine Therapieoptimierung und Aufklärung über neue, moderne Therapiemöglichkeiten

Durchführung in der Klinik Hietzing

Kontakt:

- Univ. Prof. Dr. Wolfgang Pohl & Mag. Karin Patocka
- **uncover-studie@gmx.at**

Searching the specific endotype-precision medicine …

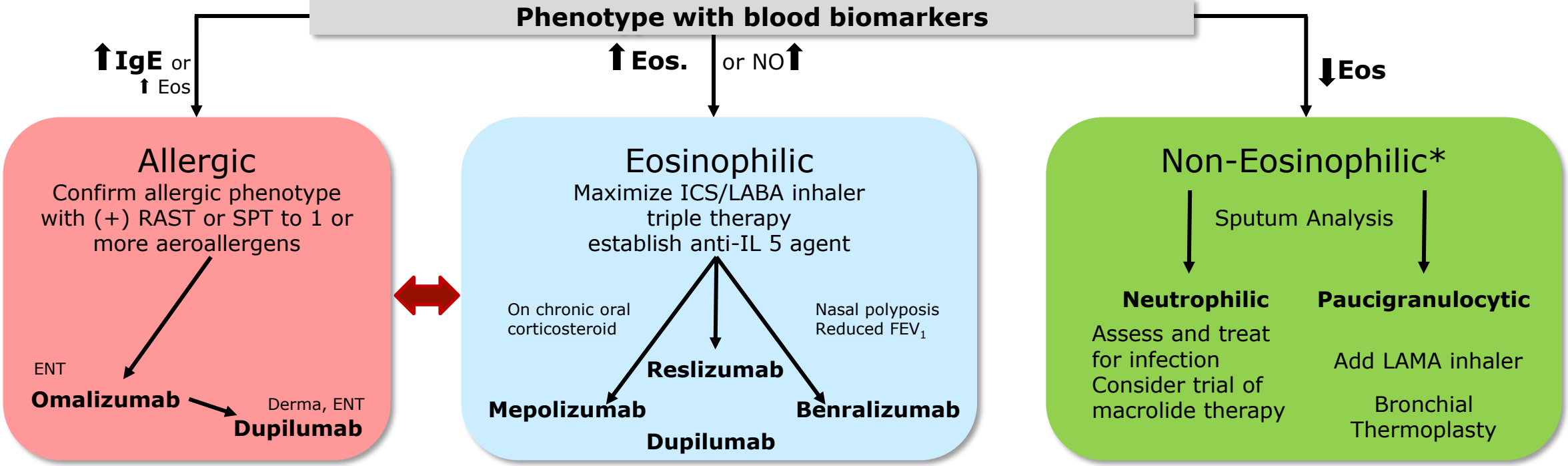
Confirm diagnosis of asthma

- Symptoms of wheese, cough,dyspnea, sputum
- Reversible airway obstruction
- (+) Bronchoprovocation challenge

Assess level of control and appropriate adherence

- Follow GINA steps based guidelines for evaluation of therapy
- If symptoms remain uncontrolled at GINA step 5 proceed with phenotyping

Phenotype with blood biomarkers



W.Pohl 2020

Patient: E.F., 45 Jahre

07/2016	• Anfang der respiratorischen Symptomatik mit Belastungsdyspnoe und Nasenbeschwerden. Gelegentlich produktiver Husten. • Diagnose: Asthma bronchiale durch Lungenfacharzt • ICS/LABA, Berodual bei Bedarf - zuletzt ca. 8x/d benutzt.
09/2016	• zunehmende Belastungsdyspnoe • 5d Kortisontherapie (Aprednisolon 50mg) durch Hausarzt , keine wesentliche Besserung.
11/2016	• Stationäre Aufnahme – Asthma Exazerbation **(EOS 510/µl)**,Entlassung mit (ICS/LABA + LAMA)
02/2017	• Verlaufskontrolle: gutes Anpsrechen, kein OCS, ACT: 19
08/2017	• **Zuweisung:** allgemein schlechter Zustand, 4x OCS wegen Exazerbation, depressive Stimmung, exspiratorische Giemen bds. • ACT: 14 • Labor: CRP unauff. **Eos: 850µl**; **Sputum Eos: 5%;** • LUFU:FEV_1: 2,21 (46%SW), Reversibilität: 18%, VC: FEV_1/VC: 46%; • BGA: Normalbefund • NO: 85ppb; • Allergiestatus inkl. ALEX neg., CT-Thorax: unauffällig, CT-NNH: chron. Sinusitis; • Immunstatus: unauffällig keine OSAS, psychosoziale Status: unauffällig

Welche Therapie wählen Sie?

1. Nochmals Optimierung der Inhalativen Therapie versuchen & Verlauf beobachten
2. OCS Erhaltungstherapie
3. Anti-IL5 Therapie

Patientenfall: E.F., 45 Jahre

09/2017	Mepolizumab 100 mcg s.c. alle 4 Wochen zusätzlich zur laufenden Standarttherapie
01/2018	Verlaufskontrolle • zufriedenstellender klinischer Zustand • In letzten 6 Monaten nur 1 Exazerbation, jedoch kein OCS erforderlich • Keine nächtlichen Beschwerden mehr • Verbesserung des psych. Zustandes • Auskultation: keine Nebengeräusche • ACT 22 (zuletzt 16) • Labor: CRP unauff. • Eos: 180/µl • Bodyplethysmographie: FEV_1/FVC 82%; FEV_1 4,28 L (115%); FVC 5,18 L (116%); VC IN 111%; PEF 90%; TLC 6,97 L (112%); RV 92%: FRC 114%.

UNCOVER STUDY

Durchführung in der Klinik Hietzing

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