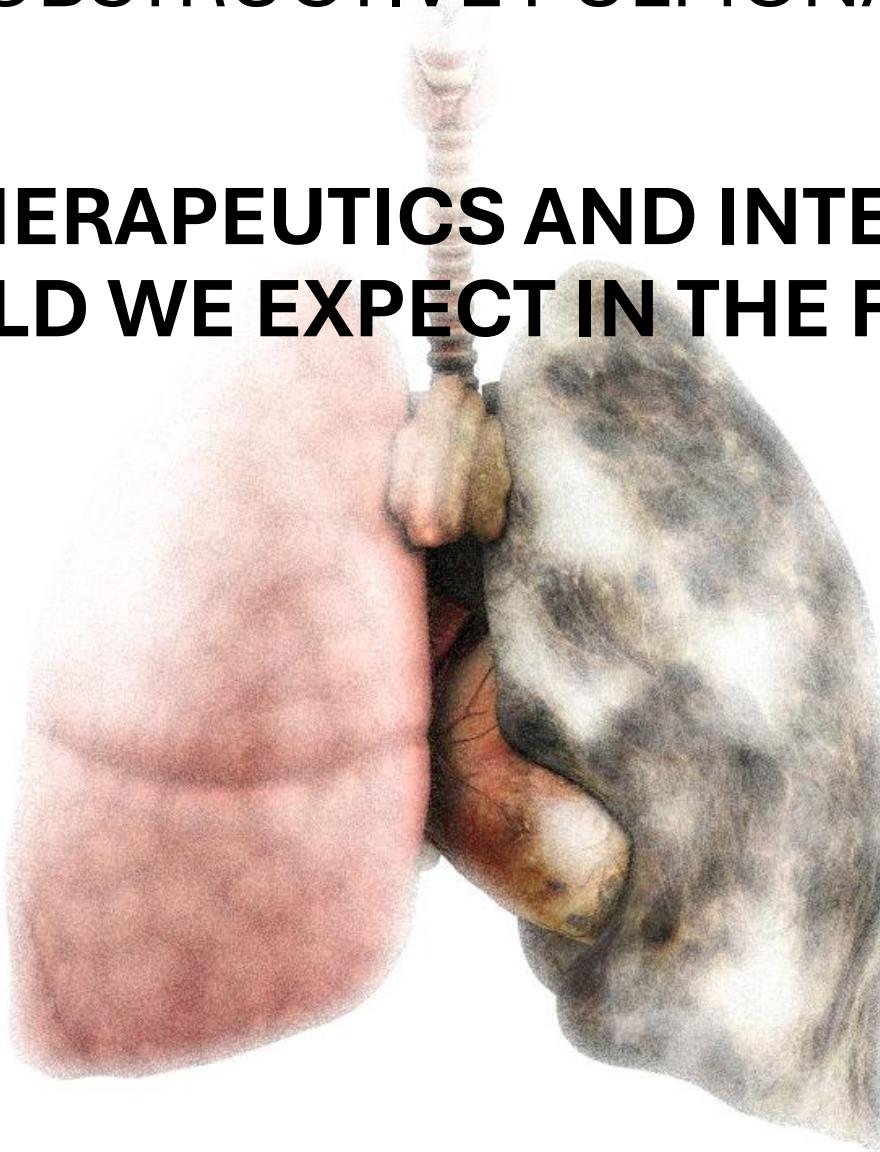


CHRONIC OBSTRUCTIVE PULMONARY DISEASE: WHICH THERAPEUTICS AND INTERVENTIONS SHOULD WE EXPECT IN THE FUTURE?



Belgian Nursing Days 2025- Liège

Charlotte de Fays MD, PhD

Pulmonologist

ZOL Genk

CONFLICT OF INTEREST DISCLOSURE

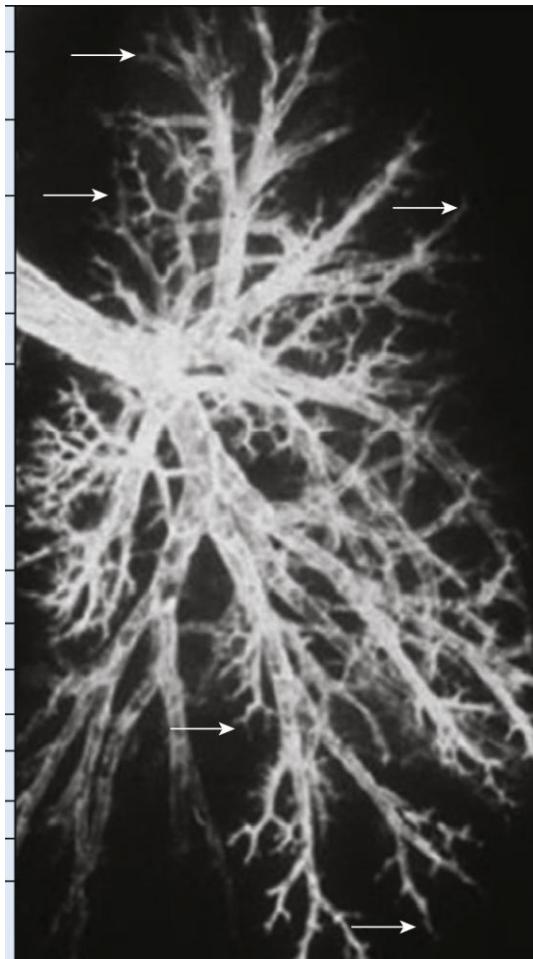
I have no real or perceived conflicts of interest that relate this presentation

INTRODUCTION

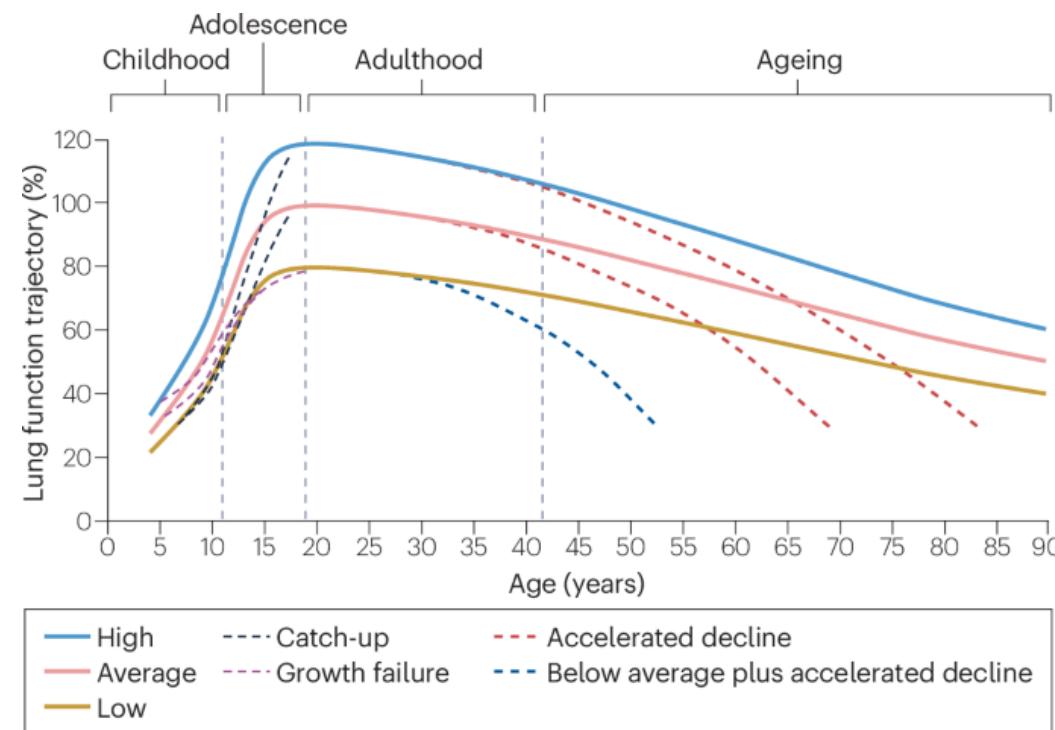
Current therapeutics options:



INTRODUCTION

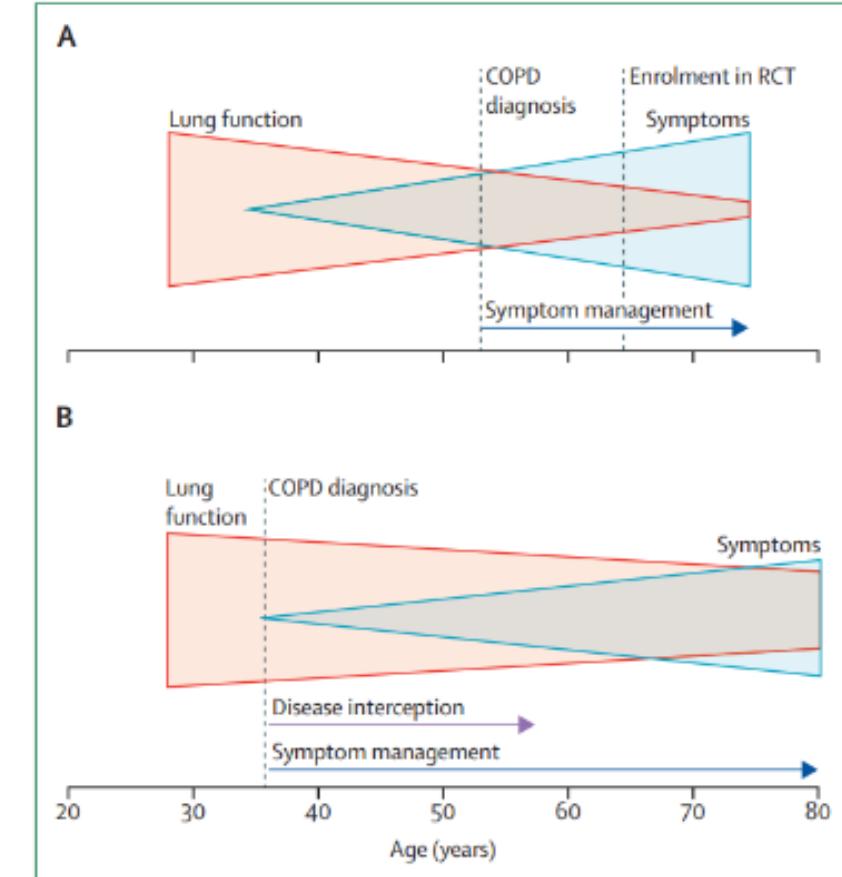


Some of the hurdles to **cure** COPD:



Heterogeneity

Late diagnosis

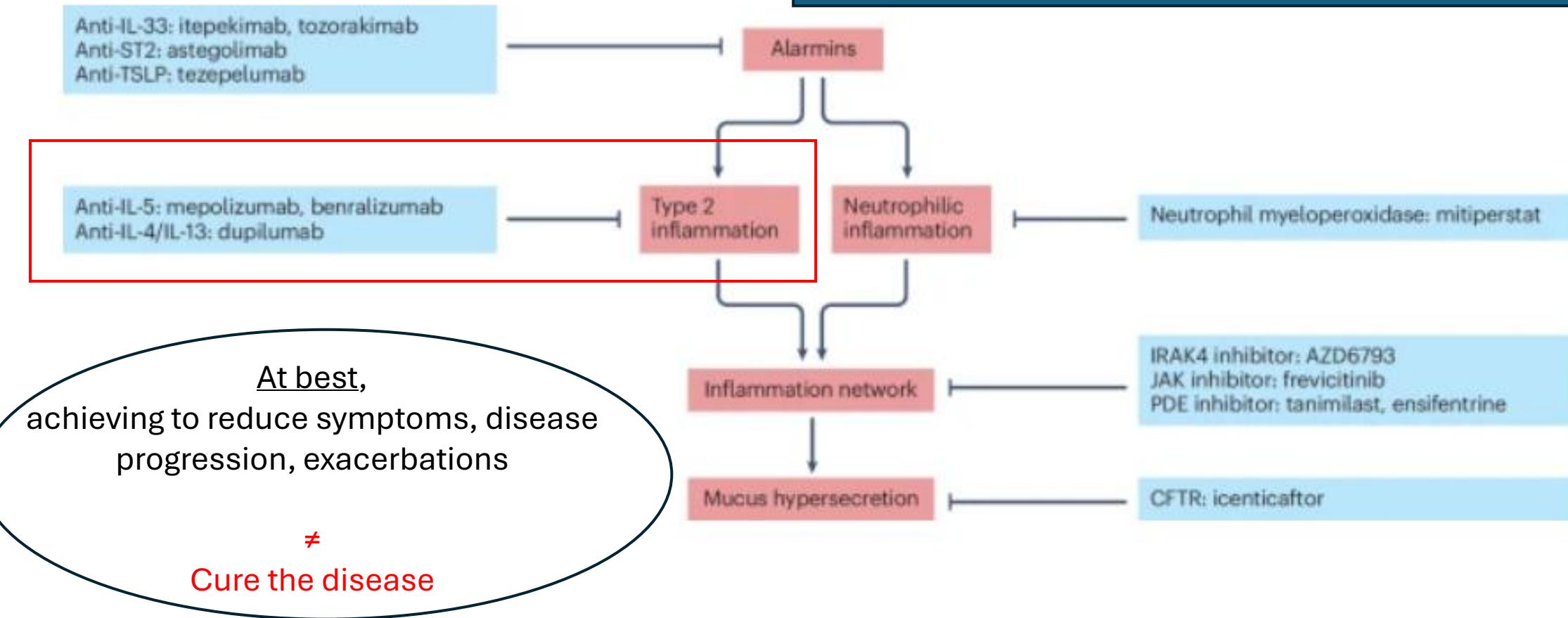


Small airways disease
Usmani, *Chest* 2021
Stolz, *Lancet* 2022
Agosti, *Nature* 2025

1. RECENT TRIALS WITH NEW DRUGS IN COPD
2. NEW FINDINGS IN COPD PATHOPHYSIOLOGY AND ASSOCIATED POTENTIAL THERAPEUTIC INTERVENTIONS

Drugs in the pipeline

Targeting Chronic Inflammation triggered by cigarette smoke



MEPOLIZUMAB (IL-5 inhibitor)



BENRALIZUMAB (IL-5 inhibitor)



DUPILUMAB (IL-4 and IL-13 inhibitor)

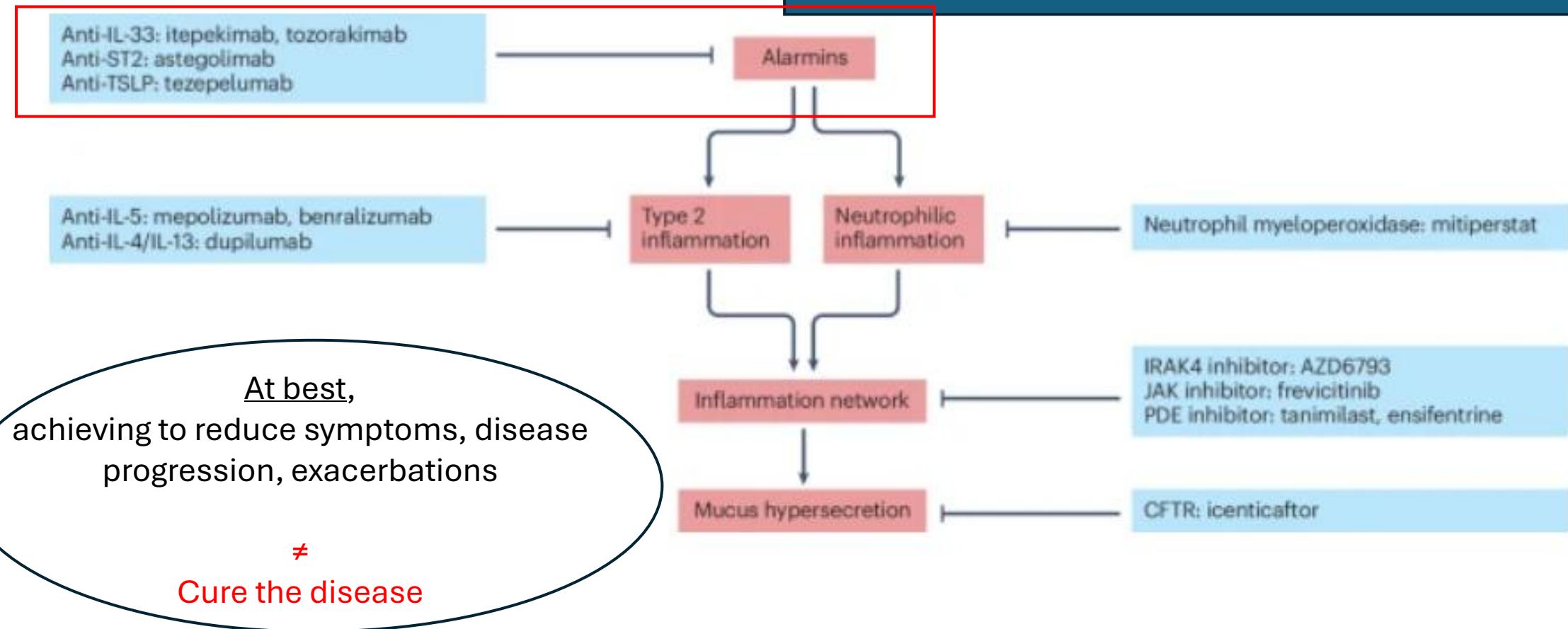


↓ exacerbations in patients with Eos 300/ μ l and under inhaled triple therapy

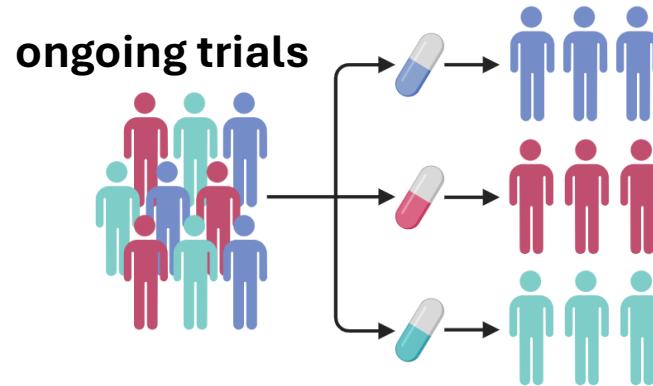


Drugs in the pipeline

Targeting Chronic Inflammation triggered by cigarette smoke



ITEPEKIMAB / TOZORAKIMAB (IL-33 inhibitor)



Promising results on \downarrow exacerbations and
 \uparrow FEV1 in ex-smokers and high Eos

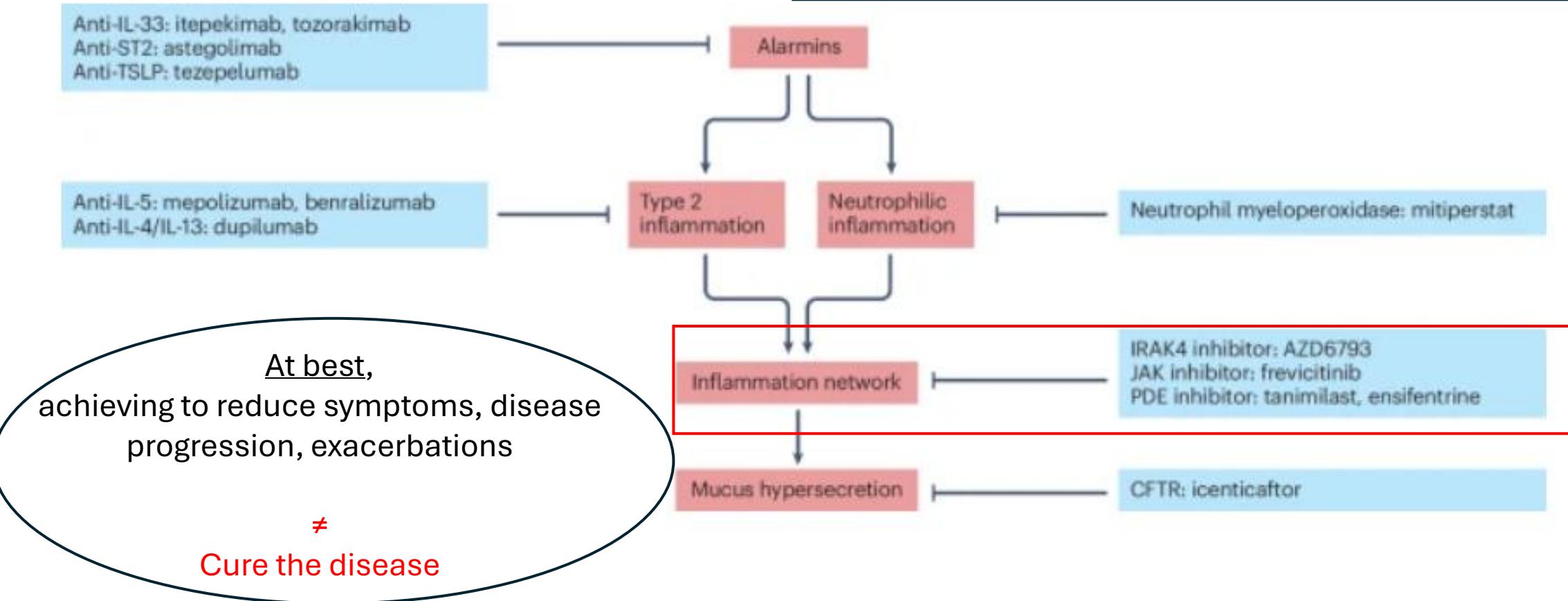


Promising results on \downarrow exacerbations in
patients with high Eos

TEZEPELUMAB (anti-TSLP)

Drugs in the pipeline

Targeting Chronic Inflammation triggered by cigarette smoke



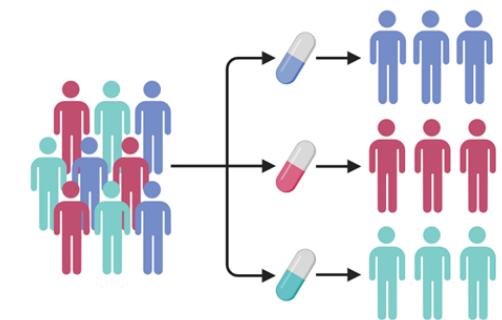
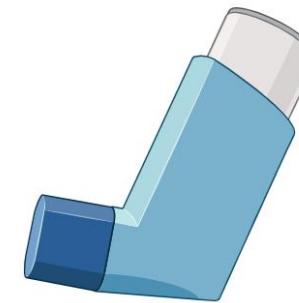
DRUGS TARGETING PHOSPHODIESTERASES

ROFLUMILAST (PDE4 inhibitor – oral)



! Side effects: gastro-intestinal disturbance

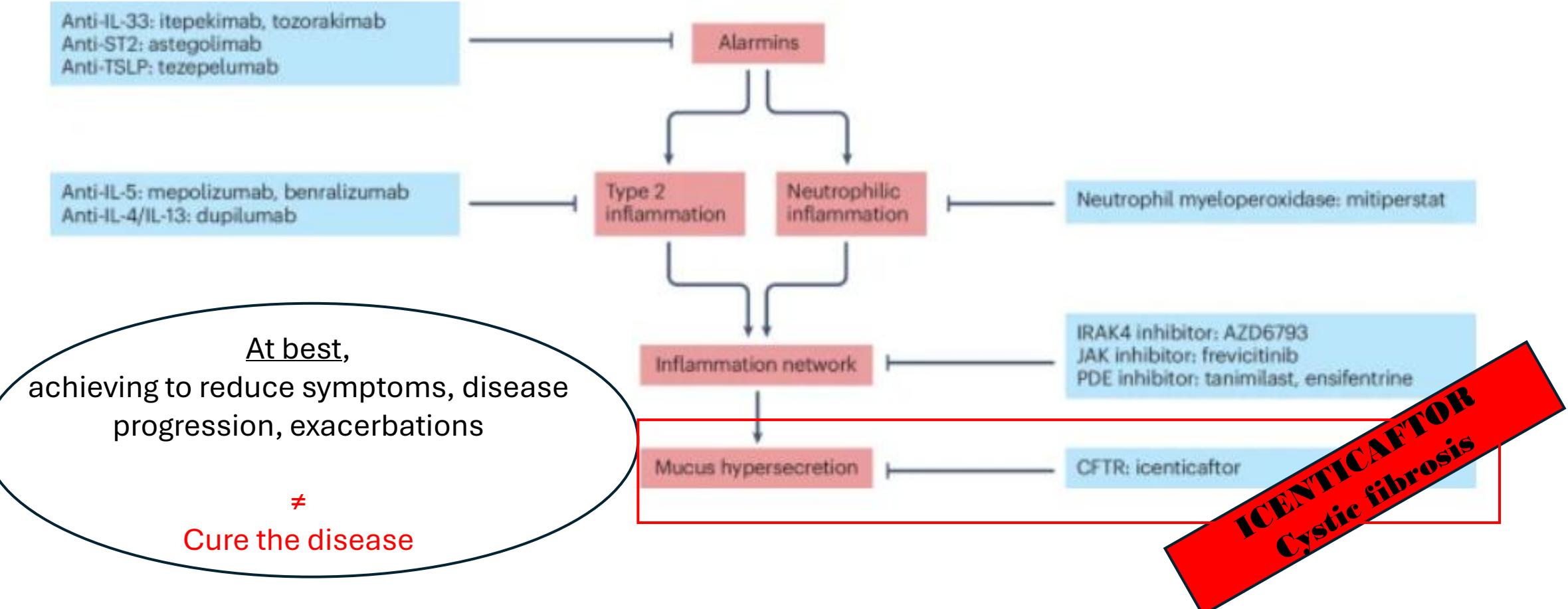
ENSIFENTRINE (PDE3/4 inhibitor – inhaled)



↑ FEV1, QoL and ↓ exacerbations in patients >10 PY
Well-tolerated

Drugs in the pipeline

Targeting Chronic Inflammation triggered by cigarette smoke



1. RECENT TRIALS WITH NEW DRUGS IN COPD

2. NEW FINDINGS IN COPD PATHOPHYSIOLOGY AND ASSOCIATED POTENTIAL THERAPEUTIC INTERVENTIONS

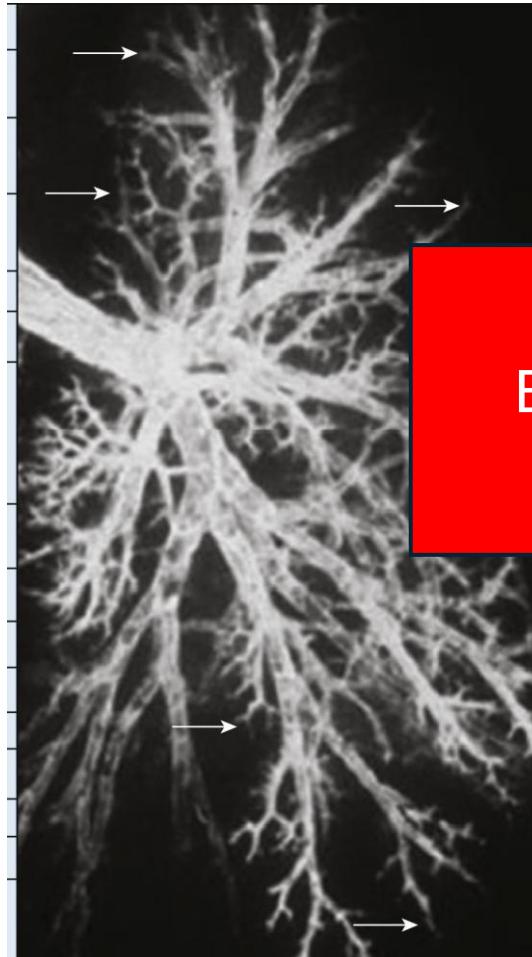
+/- promising results to **improve COPD patient**

but

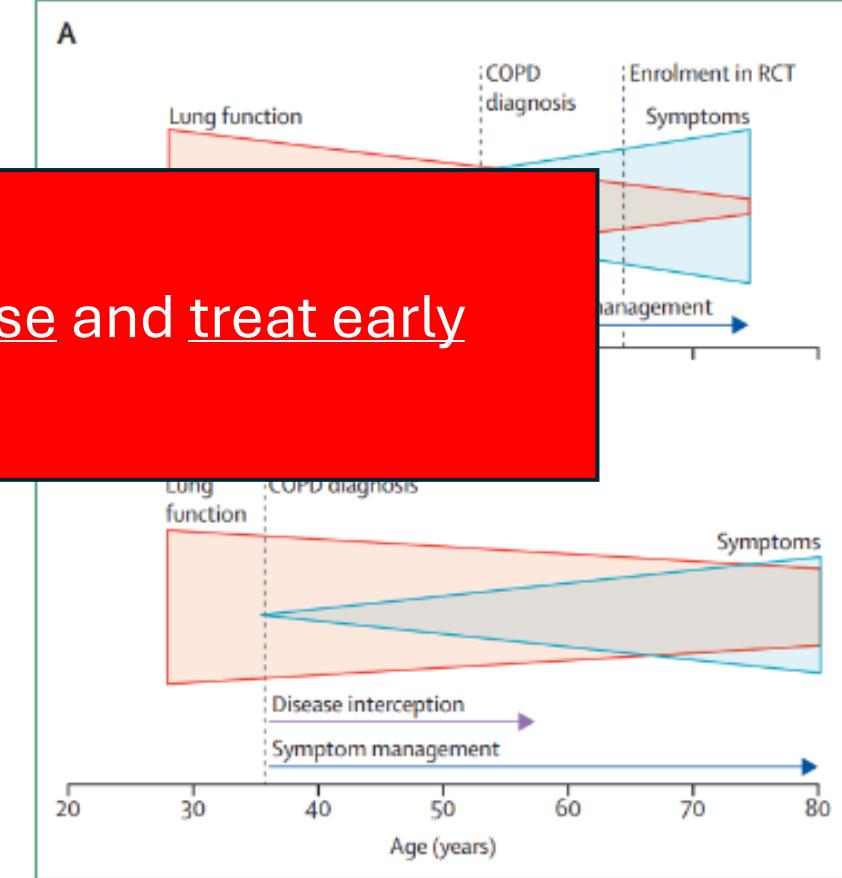
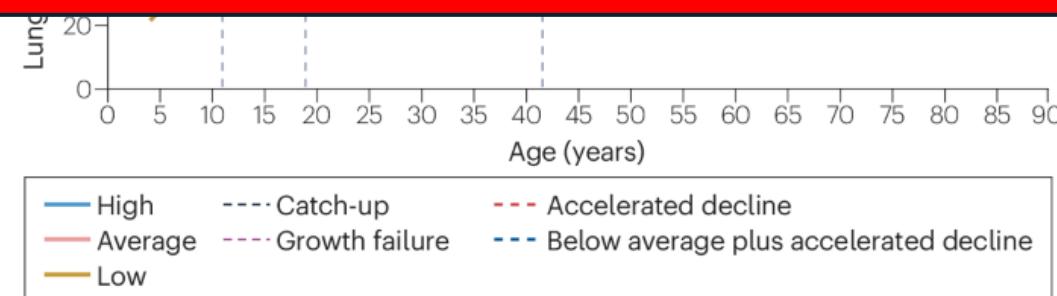
Not to cure the patients!

INTRODUCTION

Some of the hurdles to **cure** COPD:



Better understanding, to prevent, diagnose and treat early

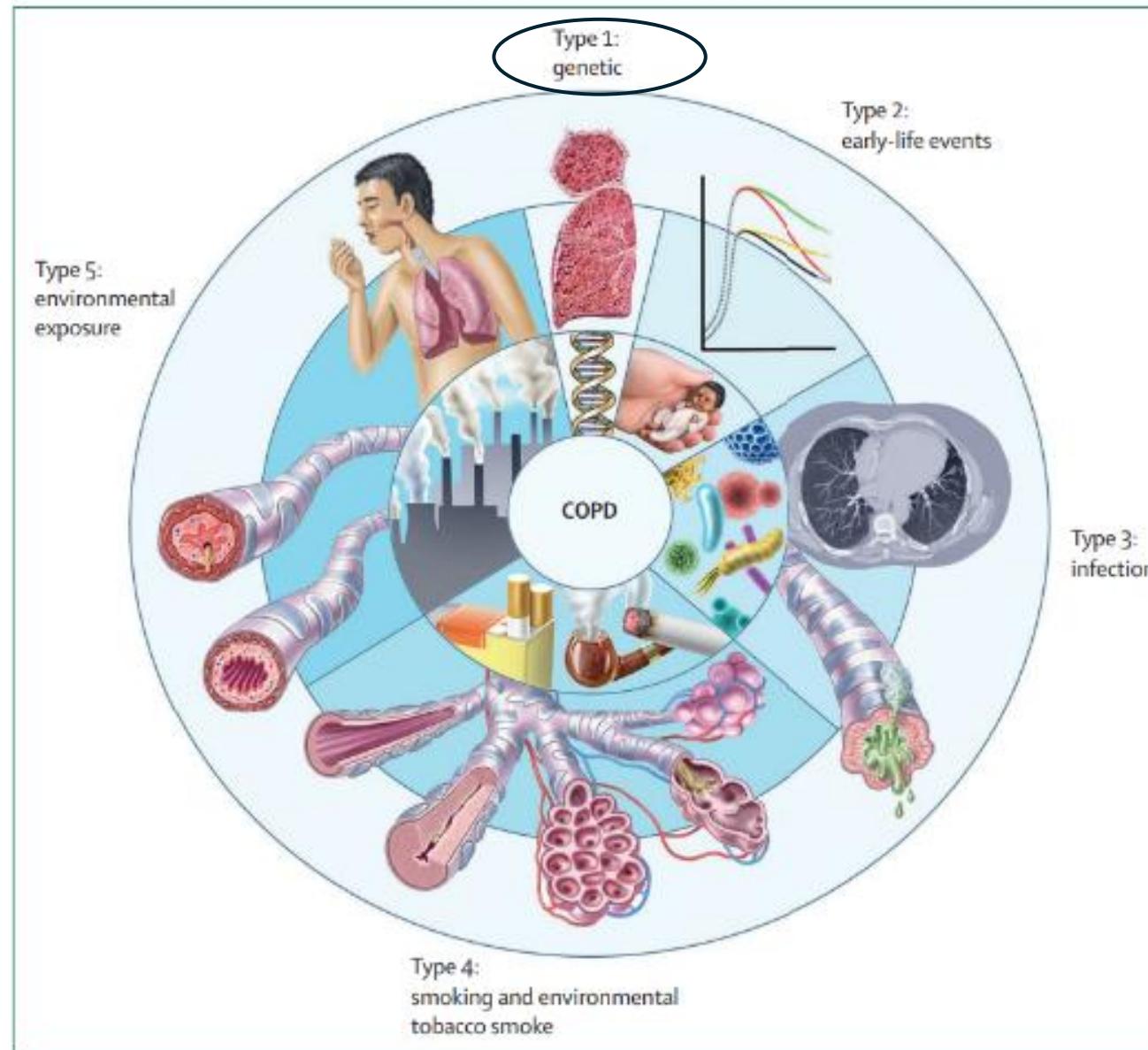


Small airways disease
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Heterogeneity

Late diagnosis

NEW FINDINGS IN COPD AND POTENTIAL THERAPEUTIC INTERVENTIONS

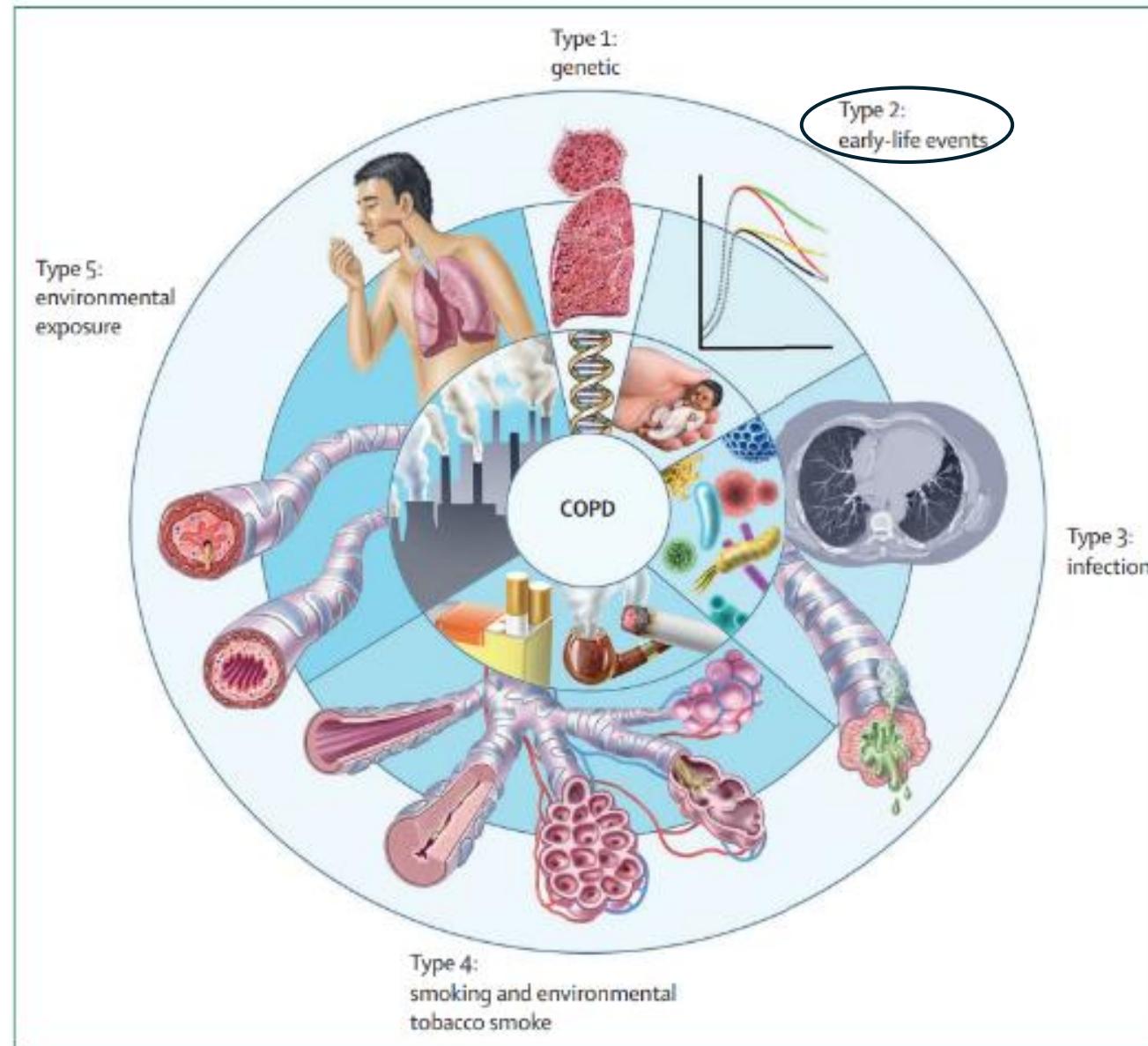


Probable genetic heritability in COPD

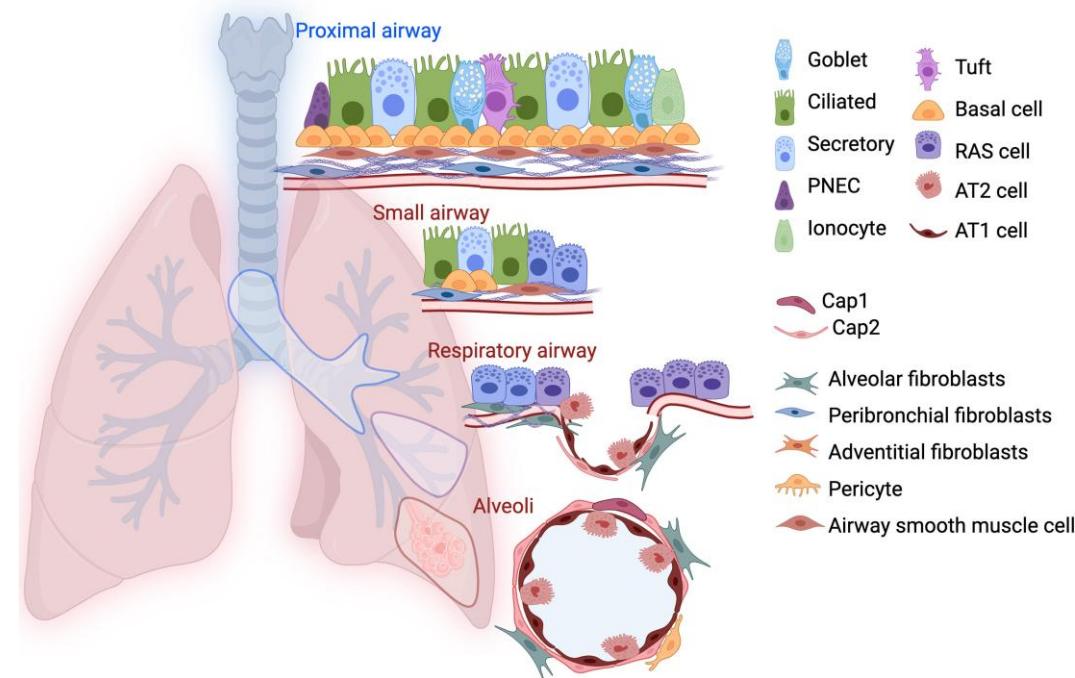
- α1-antitrypsin deficiency
- Other mutations? TERT mutations? Polygenic score



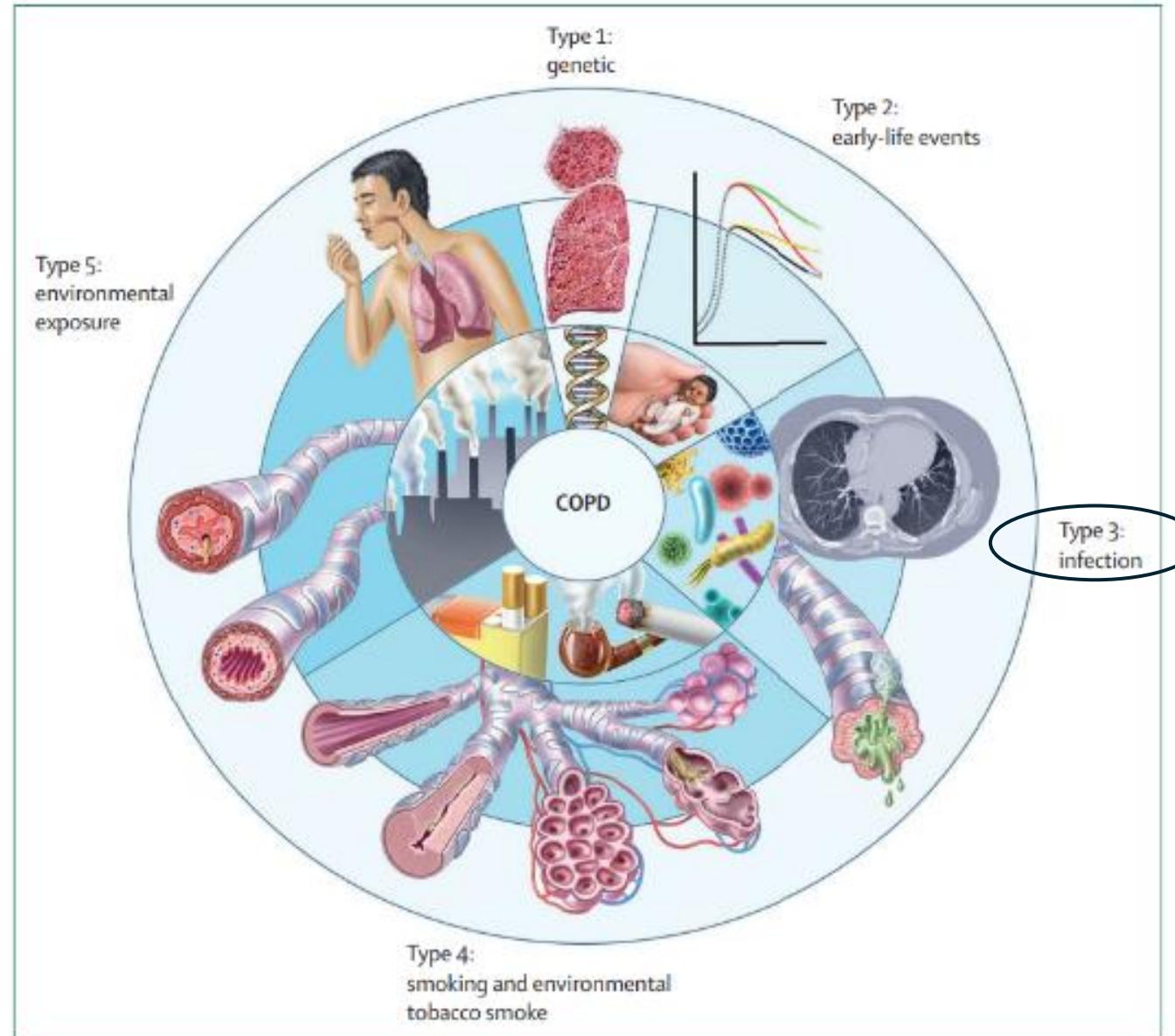
NEW FINDINGS IN COPD AND POTENTIAL THERAPEUTIC INTERVENTIONS



- Abnormal lung regeneration
- Prematurity
- Childhood Asthma



NEW FINDINGS IN COPD AND POTENTIAL THERAPEUTIC INTERVENTIONS

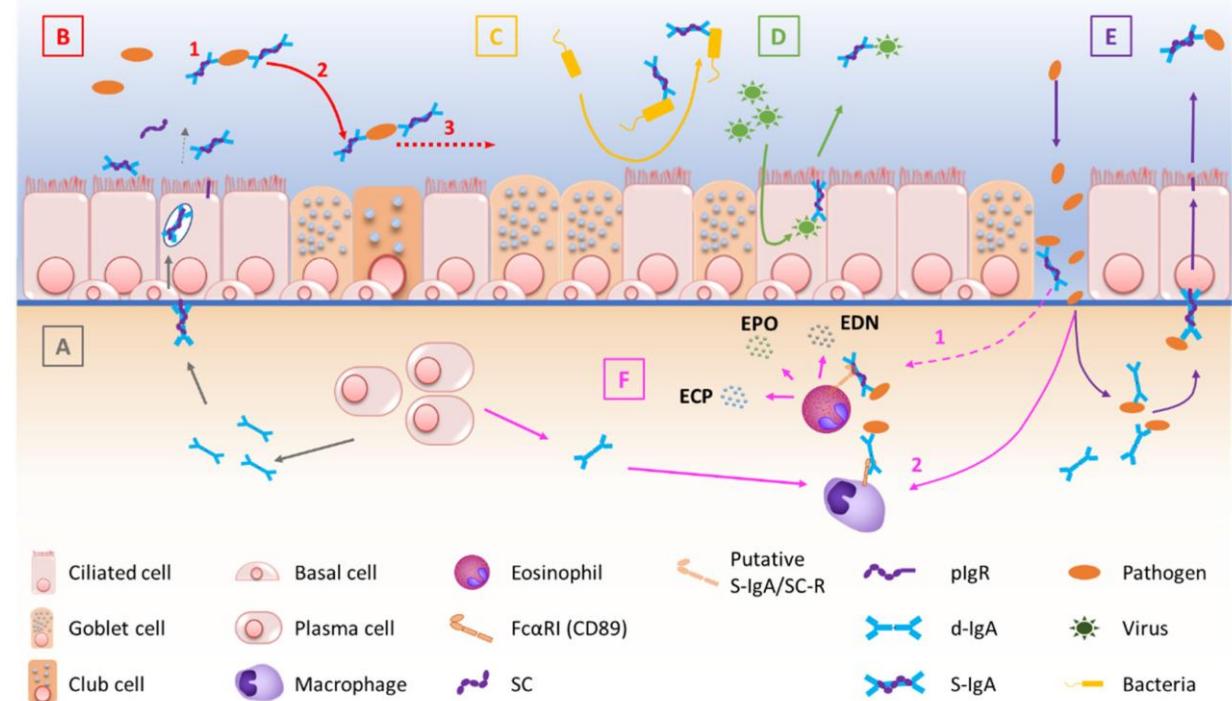
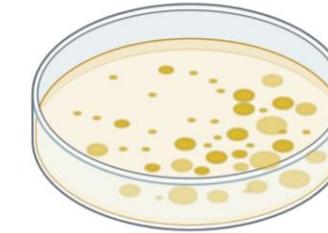


➤ Lung microbiome alteration in COPD

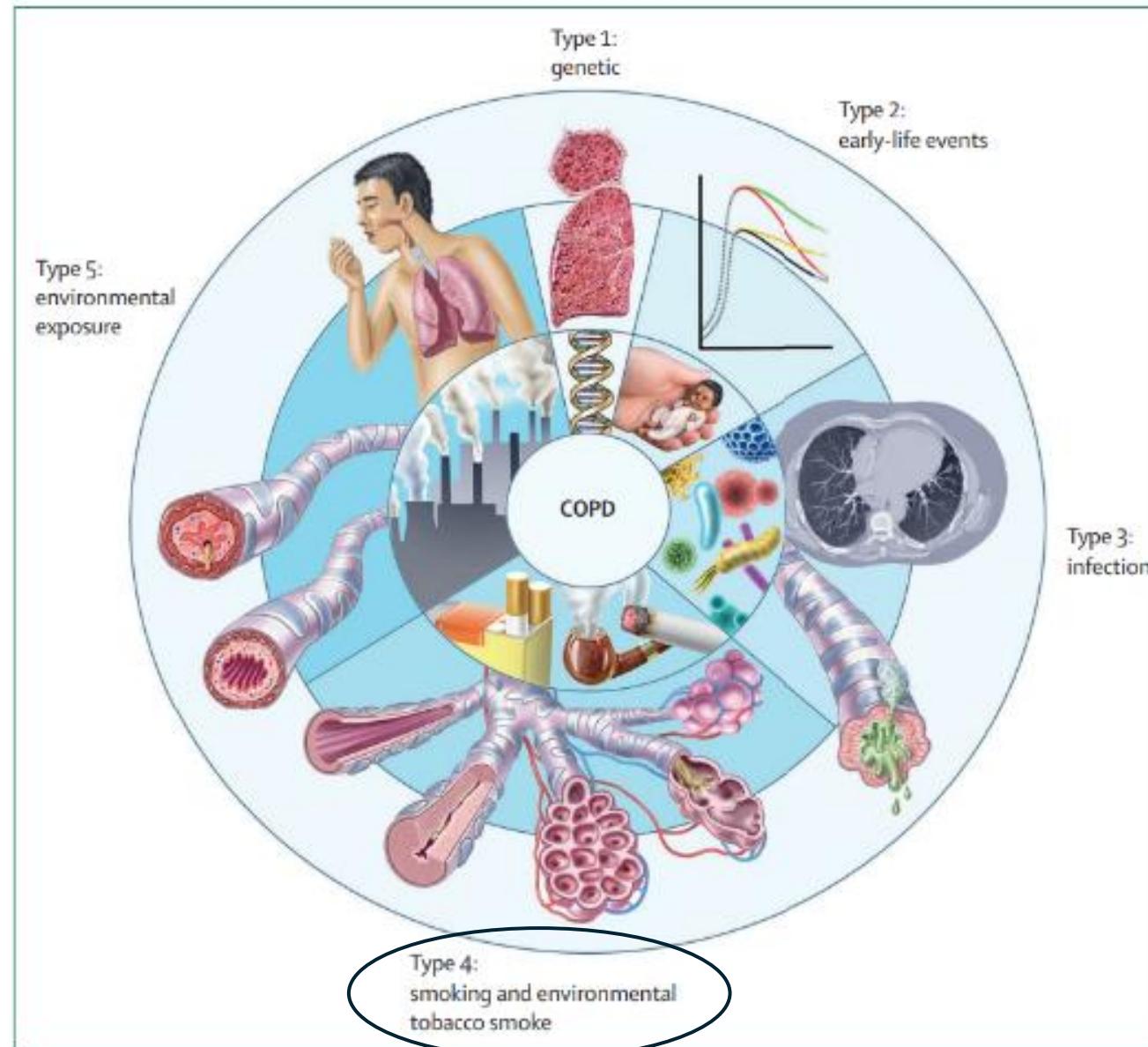
➤ TBC patients

➤ Airway mucosal defenses alterations (IgA)

➤ Early vaccination



NEW FINDINGS IN COPD AND POTENTIAL THERAPEUTIC INTERVENTIONS



SMOKING AND ENVIRONMENTAL TOBACCO EXPOSURE

➤ In utero and early life exposure

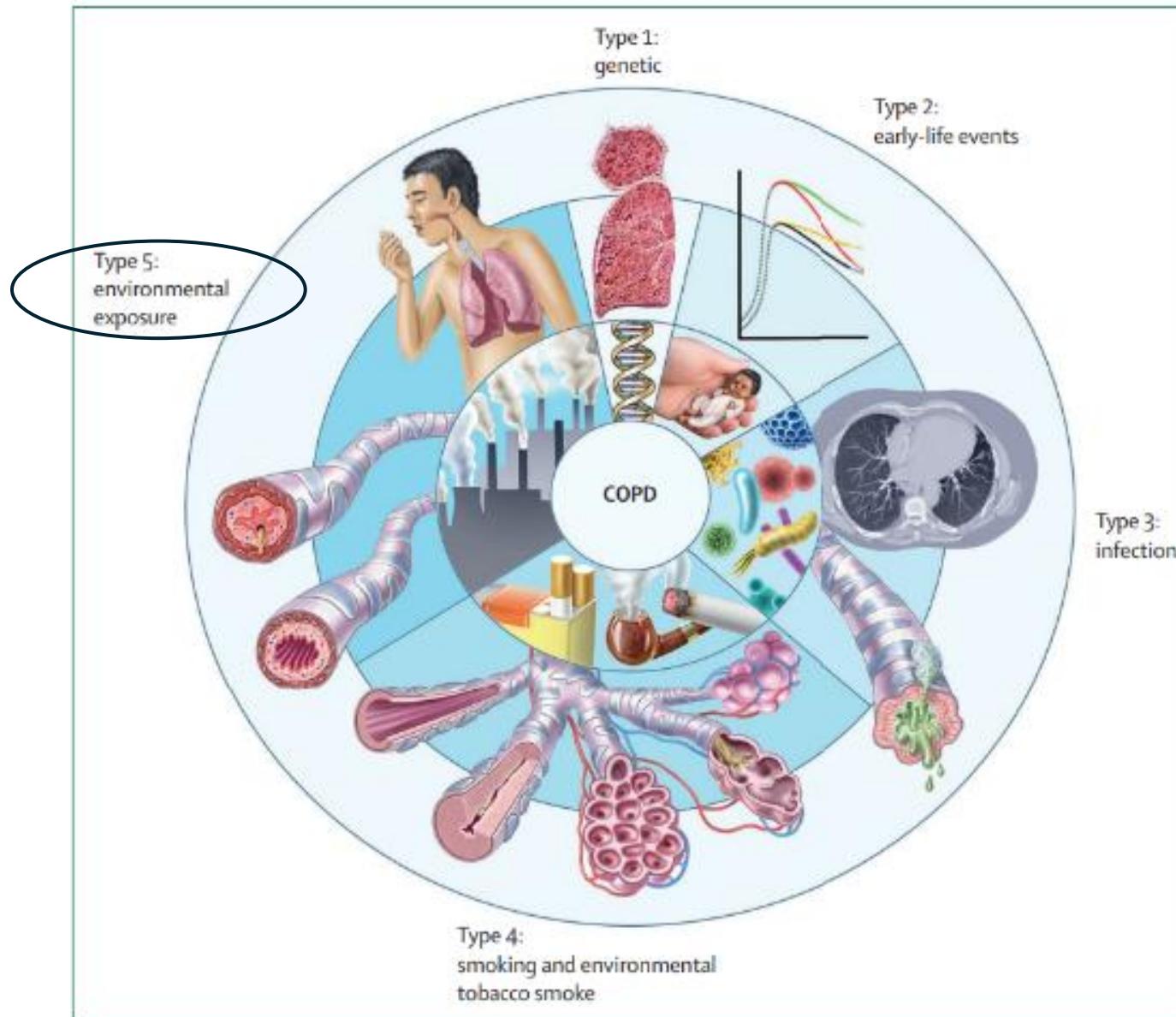
➤ Vaping

➤ Cannabis

➤ **Passive smoking!**



NEW FINDINGS IN COPD AND POTENTIAL THERAPEUTIC INTERVENTIONS



ENVIRONMENTAL EXPOSURE

- Indoor pollutants



- Ambiant pollution

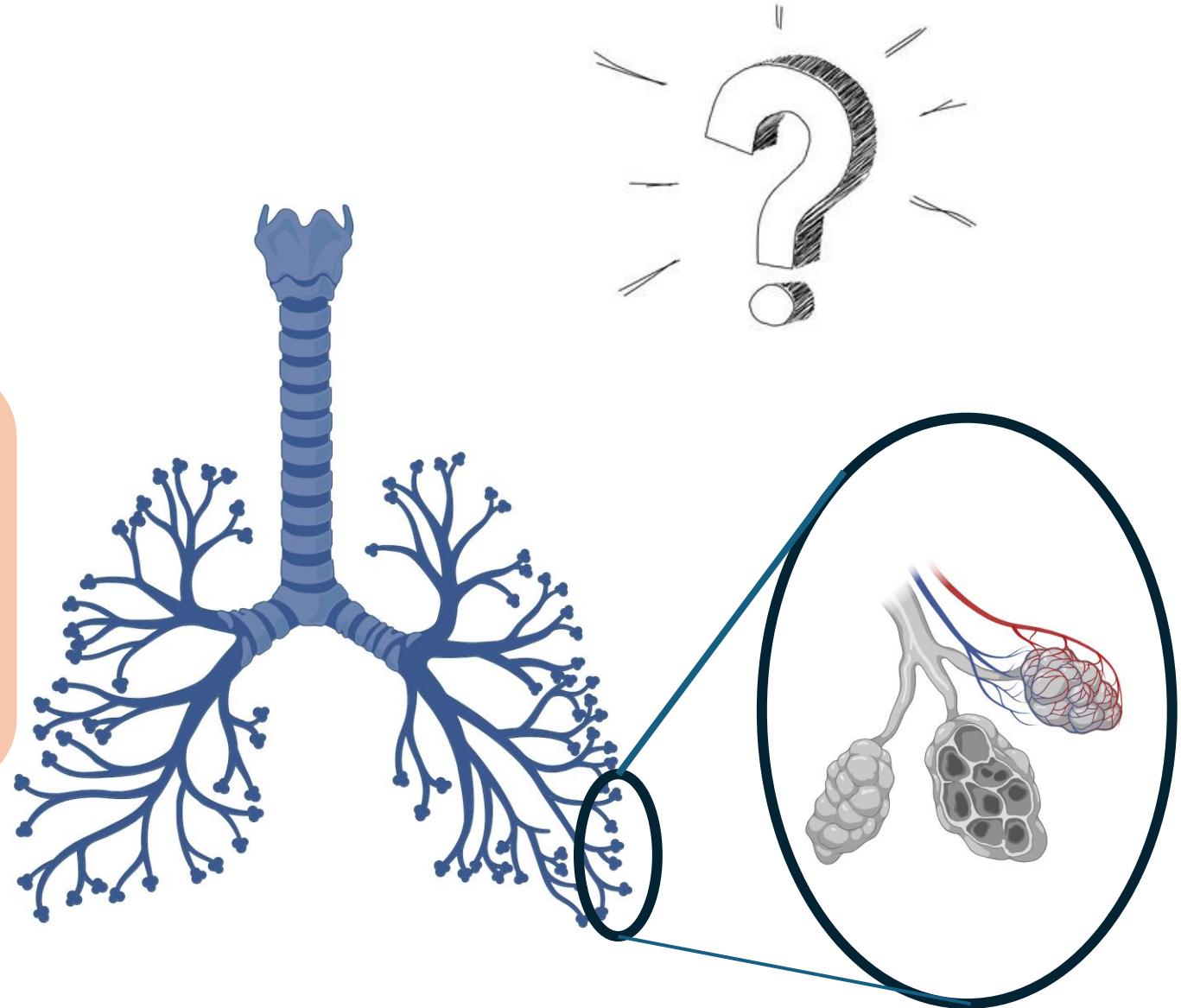


- Occupational exposure

1. RECENT TRIALS WITH NEW DRUGS IN COPD
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VERY COMPLEX DISEASE WHICH SHOULD BE
EXTENSIVELY REDEFINED FOR A MORE EFFICIENT
PREVENTION AND EARLY DIAGNOSIS

Until we really understand
what is going on deep in the
COPD lung!



More fundings needed for research

THANK YOU FOR YOUR ATTENTION!

With special thanks to ❤

Sonja Vrancken

Yamina Kerouach

&

Carmelita Damiao Gomes

