

# Two-year cumulative oral corticosteroid exposure in severe eosinophilic asthma before and after anti-IL-5 therapy

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## INTRODUCTION

- For many decades patients with severe asthma depended on oral corticosteroids (OCS) to control of their disease.
- Prolonged use of OCS is associated with serious side effects.
- Nowadays these patients are increasingly treated with novel, highly effective biologicals.
- Anti-interleukin (IL)-5 biologics reduce maintenance dose and number of OCS bursts in severe eosinophilic asthma patients.
- However, little is known about OCS use over a long time and the effect of anti-IL-5 therapy on cumulative OCS exposure.

## AIM

- To examine the cumulative OCS exposure 24 months before and after initiating anti-IL-5 treatment.
- To examine the course of OCS exposure over 24 months before and after initiating anti-IL-5 treatment.

## METHODS

- Data from 389 patients who started anti-IL-5 biologics (mepolizumab, reslizumab, benralizumab) before January 2019 were obtained from the Dutch Severe Asthma Registry RAPSODI.
- Pharmacy dispensing data of OCS 24 months before and after initiating anti-IL-5 treatment were obtained from patients' pharmacies.
- OCS exposure was captured in prednisone equivalents per trimester.

## ACKNOWLEDGEMENTS

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## RESULTS

Table 1. Baseline characteristics (N=389).

Age*	57	(48-64)
Male sex, n (%)	177	(45.5)
Late-onset asthma, n (%)	294	(75.6)
Non-atopic asthma, n (%)	207	(53.2)
Former smoker, n (%)	163	(41.9)
FEV1 pre bronchodilator (%pred)*	76	(61-90.5)
FeNO (ppb)*	40	(24-76)
Serum eosinophils (10 <sup>9</sup> /L)	0.42	(0.20-0.67)
OCS maintenance, n (%)	225	(57.8)

\*Median (IQR)

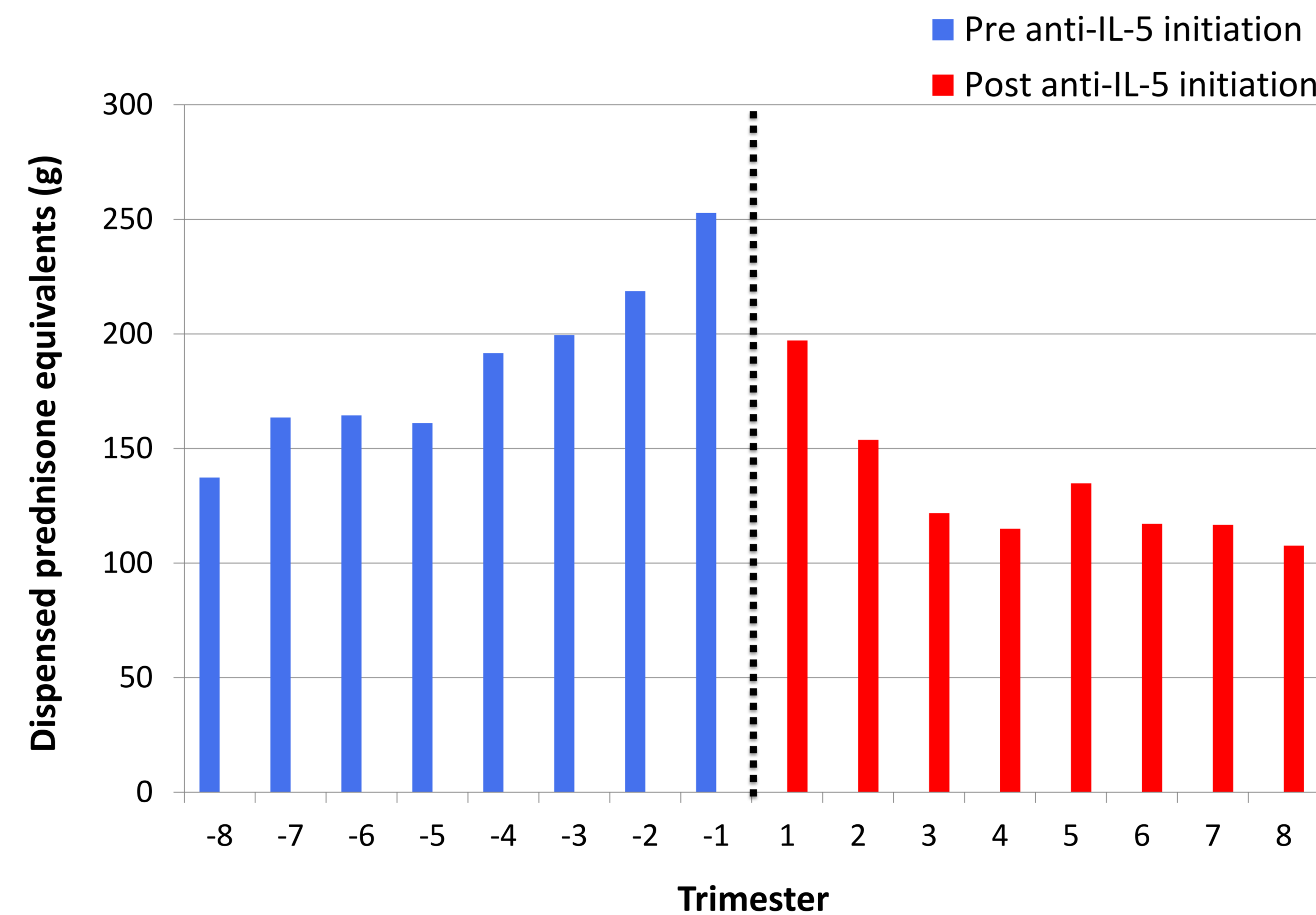


Figure 1. Total OCS exposure per trimester for the entire population (N=389).

- The cumulative OCS exposure in the 24 months before and after anti-IL-5 initiation decreased from median (IQR) 2.715 g (1.150-5.539) to 1.050 g (0.300-3.640) respectively,  $p < 0.001$ .
- Cumulative OCS exposure increased from median (IQR) 0.145 g (0-0.518) to 0.450 g (0.0125-0.903) over 24 months prior to anti-IL-5 initiation,  $p < 0.001$ .
- The increase was mainly observed in patients not yet using OCS 24 months before anti-IL-5.

- 65 (16.7%) patients had the first OCS dispensed <12 months before anti-IL-5, while 324 (83.3%) also received OCS in the 12-24 months before anti-IL-5.
- 75% of the patients with a shorter OCS exposure had no OCS dispensed in the 18-24 months after initiating anti-IL-5, as opposed to 43% in the patients with a longer OCS exposure

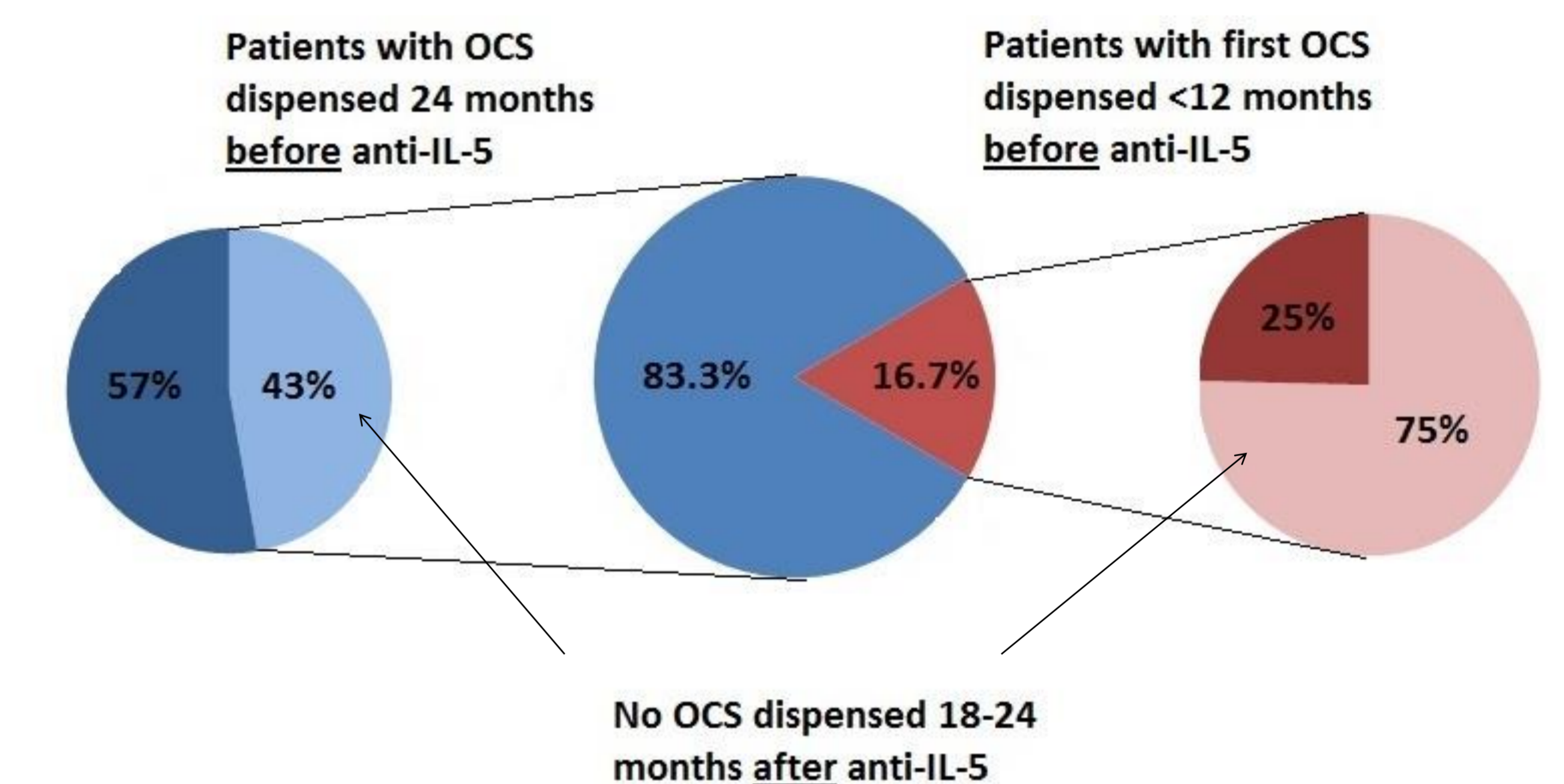


Figure 2. Patients with or without OCS 24-12 months before anti-IL-5.

## CONCLUSIONS AND IMPLICATIONS

- Initiating anti-IL-5 treatment leads to an impressive reduction of OCS exposure.
- Severe eosinophilic asthma is a progressive, increasingly OCS dependent disease.
- Patients with shorter duration of OCS exposure are more likely to eliminate OCS, which argues for early anti-IL-5 intervention.