

Withdrawal of inhaled corticosteroids in patients with COPD: a descriptive study using primary care electronic records

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Background

- Inhaled corticosteroids (ICS) are over-prescribed in UK primary care which increases risk of side-effects and is poorly cost-effective¹
- Guidelines now recommend ICS withdrawal in patients with low exacerbation rates and blood eosinophil counts, alongside ongoing maintenance therapy with an inhaled bronchodilator²

Study aims

- Describe trends in ICS withdrawal in UK primary care
- Compare those receiving/not receiving long-acting bronchodilator maintenance therapy
- Identify patient characteristics associated with successful ICS withdrawal

Methods

- Study design:** retrospective cohort study using routinely collected primary care data in the UK Clinical Practice Research Datalink (CPRD)
- Included patients:**
 - Withdrawing a long-term ICS prescription 2012-2017
 - Minimum 12 months' persistent exposure to ICS therapy
 - Withdrawal defined as a period of at least 6 months with no record of ICS prescription
- Baseline characteristics recorded at start withdrawal
- Patient groups:** Received one or more prescriptions for long-acting maintenance therapy during withdrawal, or not
- Primary outcome:** time without ICS (Cox proportional hazards model)

ERS guidelines on ICS withdrawal²

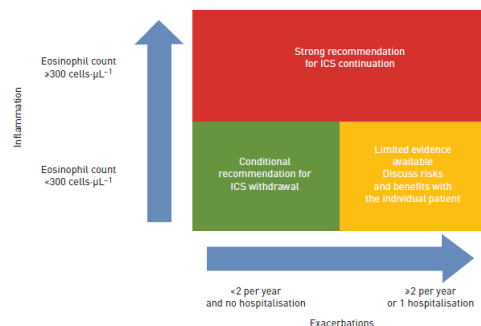
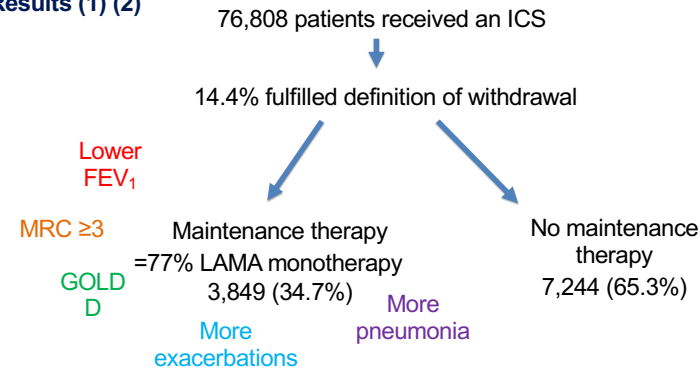


FIGURE 1 Summary of the guideline recommendations. ICS: inhaled corticosteroid. We recommend taking account of prior exacerbation history and blood eosinophil counts. Patients with a high rate of exacerbations and eosinophil counts $>300 \text{ cells-}\mu\text{L}^{-1}$ should not be considered for ICS withdrawal. Patients not meeting these criteria may be candidates for ICS withdrawal.

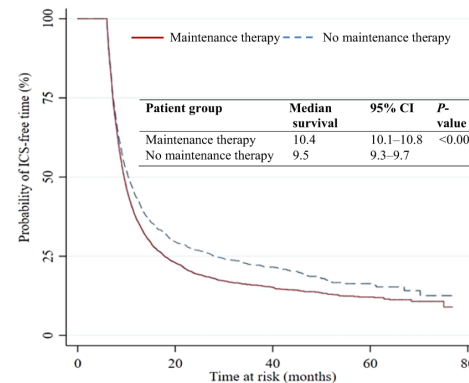
Results (1) (2)



Results (3)

Variables significantly associated with a longer time without ICS:

- Fewer exacerbations
- No asthma history
- Lower eosinophil count
- COPD review at start of withdrawal period
- (Dual) maintenance therapy during withdrawal period



ICS-free time:			
LAMA/LABA	18.3m	LAMA	13.6m
LAMA+LABA	20.2m	LABA	14.7m

Treatment Prescribed:	Date of withdrawal coincides with annual/6m review			
	No	Yes	No	Yes
No Maintenance	Ref	0.86		0.01
Maintenance therapy	0.95 (0.88,1.02)	0.16	0.72 (0.61,0.85)	<0.001

Conclusions and practice points

- ICS withdrawal is taking place in primary care, likely in both a planned and unplanned way
- ICS withdrawal more likely to be more successful in those with:
 - Fewer exacerbations
 - Lower eosinophil count
 - No asthma history
- This study supports current ERS guidelines² (see box bottom left)
- ICS withdrawal should be done in a planned way with COPD review beforehand and initiation/continuation of dual maintenance therapy

Study limitations

Due to issues defining withdrawal in observational data, those who rapidly failed an attempted ICS withdrawal may have been excluded.

Published paper

This work has been published: scan QR code for full paper³



References

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Conflicts of interest:

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