

Rational Use of Inhaled Medications for the Patient with COPD and Multiple Comorbid Conditions: Guidance for Primary Care

This desktop helper describes the challenges associated with the pharmacological management of the patient with COPD and multiple comorbid conditions with a particular focus on the rational use of inhaled corticosteroids and provides guidance for the holistic care of such patients in the primary care setting.

INTRODUCTION

Chronic obstructive pulmonary disease (COPD) is typically accompanied by multiple comorbid conditions. However, guidelines for the management of patients with COPD focus on the disease itself, providing little practical guidance on the routine management of comorbidities. Our objective is to review the impact of comorbidities on treatment choices for patients with COPD, especially with regard to the risks and benefits of inhaled medications including long-acting beta-agonists (LABA) and long-acting muscarinic antagonist (LAMA) and with a special focus on inhaled corticosteroids (ICS).

MULTIMORBIDITY IN COPD

Patients with COPD typically present with multiple comorbid conditions which require long-term management alongside their COPD.¹ An additional challenge is that concomitant conditions, such as asthma or bronchiectasis, can be overlooked because signs and symptoms may overlap with those associated with COPD. Over 85% of adult patients with COPD will have at least one comorbid condition of clinical relevance, half of them have three or more.^{1,2} The prevalence of comorbidities increases with worsening COPD severity in both men and women and women appear to have a greater susceptibility to asthma, osteoporosis, anxiety and depression but appear less likely to have cardiovascular disease than men.²⁻⁴

Comorbidities often appear in clusters which suggests common risk factors (smoking and inactivity are risk factors for both COPD and lung cancer), shared underlying pathobiological mechanisms (accelerated ageing is associated with both

COPD and hypertension) and side effects of COPD treatment (development of diabetes).⁵⁻⁷

MANAGING THE PATIENT WITH COPD

According to the latest recommendations of the Global Initiative for Chronic Obstructive Lung Disease (GOLD), bronchodilation remains the mainstay of treatment for patients with stable COPD. Patients should be initiated on single or dual long-acting bronchodilator therapy.⁸ ICS/LABA can be considered as an initial therapy for patients in GOLD D with blood eosinophil counts ≥ 300 cells/ μ l.⁸ However, as ICS treatment may be associated with an increased risk of pneumonia, a risk-benefit evaluation is warranted for individual patients and withdrawal of ICS must be considered in case of emergent pneumonia.

MANAGING THE MULTIMORBID PATIENT WITH COPD

The management of individual patients with COPD and multimorbidity is often complex requiring the simultaneous application of several disease-specific treatment guidelines. These guidelines are rarely aligned with regard to treatment recommendations⁹ therefore a holistic approach is of particular importance for patients with multimorbidity. We would encourage primary care physicians to undertake regular (at least annual) (re)assessment and treatment adjustment for patients with COPD. Emergence of multimorbidity should be regarded as a signal and call to action to undertake a review of COPD treatment with a focus on

the interface between symptoms of their comorbid diseases, treatment adherence and side effects of medication.

For patients with COPD, multimorbidity is associated with a high level of polypharmacy and an increased risk for adverse drug reactions and interactions as well as an increased risk of hospitalisation and premature death.^{1,5,10-14} Polypharmacy is of particular concern when drugs with potential for similar adverse reactions are combined.¹⁵

In general, multimorbidity should not delay or alter the treatment of COPD and comorbidities should be managed according to usual standards; attention should be directed to ensure treatment simplicity and to minimise polypharmacy.⁸

COMORBIDITIES OF SPECIAL INTEREST

The management of patients with COPD and multimorbid conditions requires a personalised approach. Primary care physicians should adopt systematic ways to monitor patients with COPD. The interface between symptoms of comorbid diseases and side effects of medication should also be considered with special attention paid to the following comorbidities:

- Asthma
- Osteoporosis/fractures
- Diabetes
- Pneumonia and tuberculosis
- Atrial fibrillation
- Chronic pain
- Chronic kidney disease
- Prostate disease
- Gastroesophageal reflux
- Anxiety and/or depression
- Obstructive sleep apnoea

GENERAL ACTION POINTS TO IMPROVE THE MANAGEMENT OF THE MULTIMORBID PATIENT WITH COPD IN THE PRIMARY CARE SETTING

Optimise the treatment regimen according to local and, ideally, GOLD guidelines⁸ and assess and treat comorbidities. When initiating patients on bronchodilator therapy, evaluate the risk for atrial fibrillation (LABA) and the risk for exacerbating urinary symptoms among patients with comorbid renal or prostate disease (LAMA). In addition, think carefully about the indications for ICS use before prescribing. Use in line with guideline recommendations and note the latest IPCRG advice on appropriate use of ICS and guidance on ICS withdrawal.¹⁶

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Additional essential action points

- Increase awareness of COPD multimorbidity and screen and monitor patients for the most common comorbidities
- Ensure at least yearly patient (re)assessment and treatment adjustment in the primary care setting, including stopping of inappropriate medication. Don't forget lung cancer.
- Review inhalation technique and adherence to medication
- Empower multimorbid patients with COPD and caregivers to help them cope with potentially overwhelming amounts of information and associated depression and anxiety
- Carefully evaluate the indication before initiating ICS treatment. With regard to ongoing ICS treatment, consider
 - Asthma: ICS treatment must be continued
 - Diabetes: reconsider if ICS treatment is needed; if ICS is continued, close follow up, glucose monitoring and titration of antidiabetic treatment are required
 - Osteoporosis: reconsider if ICS treatment is needed; if ICS is continued, close follow up for loss of bone mineral density and risk of fractures is required. Screening for osteopenia or osteoporosis is recommended in patients receiving high dose of ICS or low to medium dose ICS with frequent use of oral corticosteroids
 - Infections (pneumonia or tuberculosis): consider withdrawal of ICS and maximize bronchodilation
- Closely monitor for cardiac rhythm disorders, including atrial fibrillation, when initiating patients on a LABA
- Monitor for emergent urinary symptoms when initiating patients with chronic kidney or prostate disease on LAMA

Treatment considerations for the multimorbid patient with COPD

Comorbidity	COPD treatment-associated risks		
	ICS	LABA	LAMA
Asthma	Recommended; LABA/ICS may be first line in patients with COPD and a history of asthma and asthma-COPD overlap		Recommended in selected patients
Pneumonia	Increased risk of pneumonia; consider withdrawal of ICS and maximize bronchodilation		
Osteoporosis/fractures	Increased bone loss and fracture risk; of particular concern in women		
Diabetes and pre-diabetes	Associated with onset and progression of diabetes, especially at higher doses		
Bronchiectasis	Not indicated in patients with bacterial colonization or recurrent lower RTI		
Tuberculosis	Increased risk for TB, particularly at high doses		
Chronic kidney disease			Associated with urinary symptoms
Prostate disease			Associated with urinary symptoms
Atrial fibrillation		Associated with tachycardia and rhythm disturbances (in susceptible patients)	
Glaucoma	Associated with glaucoma and cataracts		Associated with cataracts if used with face mask

COPD, chronic obstructive pulmonary disease; ICS, inhaled corticosteroid; LABA, long-acting beta-agonist; LAMA, long-acting muscarinic antagonist; RTI, respiratory tract infection; TB, tuberculosis.

■ Recommended
 ■ Use with caution
 ■ Use as per COPD guidelines

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