

PERSPECTIVE

How I would manage a woman with COPD who is symptomatic but at low risk of an exacerbation: a primary care perspective from the UK

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Clinical scenario

A 61 year-old lady is concerned about her increasing breathlessness. When she retired last year from her job as a secretary she was looking forward to gardening, and joining in activities with her grandchildren. She has discovered that anything more than gentle exercise makes her breathless and she has to stop for rest. COPD was first diagnosed 10 years ago and spirometry last year recorded an FEV₁/FVC ratio of 0.45 and a post-bronchodilator FEV₁ of 55% predicted. After nearly 40 years of smoking between 10 and 20 cigarettes a day, she managed to quit a few months ago, but this has not made any apparent difference. Her only prescription is a short-acting β_2 -agonist.

This 61 year-old lady with an established history of COPD (dyspnoea in the context of a 20-40 pack year smoking history and obstructive spirometry that persists despite bronchodilation) has become more breathless over recent months. Further management will depend on a thorough assessment of the cause of her current breathlessness and the effect of her symptoms on everyday activities.

What is causing her breathlessness?

77% of people with COPD have at least one other long-term condition – most commonly cardiac in origin – that can cause breathlessness.¹ They are also at higher risk of lung cancer² as a result of their smoking history. I would therefore ask about a history of increasing persistent cough, haemoptysis, ankle swelling, palpitations, chest pain and paroxysmal nocturnal dyspnoea. An electrocardiogram and chest X-ray will look for evidence of cardiac and other pulmonary disease, and a full blood count will exclude anaemia. Recent dramatic decline in pulmonary function can be assessed by up-to-date spirometry.

If we accept that her problems are due to the COPD then her current burdensome symptoms need attention.

Assessment of current symptoms

I would want to understand what symptoms are really causing her trouble: what can she not do that she wants to do? A tool such as the COPD Assessment Tool (CAT) can look at specifics such as the effect of COPD on sleep, isolation and exercise; a score of 10 or more indicates a high impact of symptoms.³ She has retired recently and was looking forward to time in her garden and with her grandchildren. That does not seem to have happened as anticipated, maybe causing depression, which is 2-3 times commoner in people

Table 1. DOSE index scoring system⁶

	DOSE index points			
	0	1	2	3
Dyspnoea (modified MRC Dyspnoea score)	0-1	2	3	4
Obstruction (FEV ₁ % predicted)	>50%	30-49%	<30%	
Smoking status	Non-smoker	Smoker		
Exacerbations in previous year	0-1	2-3	>3	

The DOSE index predicts exacerbations in the subsequent year. A score ≥ 4 is associated with a greater risk of hospital admission (odds ratio (OR) 8.3 [95% CI 4.1–17]) or respiratory failure (OR 7.8 [95% CI 3.4–18.3]).

Shaded cells highlight the DOSE score for the patient in the clinical scenario.

with long-term conditions than in those with good physical health.⁴ What is she hoping to achieve? An holistic assessment such as this – with involvement of, and shared understanding with, the patient – allows an individualised management plan to be formulated with a greater likelihood of success.⁵

As part of this assessment, future risk needs to be considered; this is most closely related to exacerbation frequency. The DOSE score is a validated primary care-friendly tool that can predict risk of exacerbation⁶ (see Table 1).

In this case her moderate reduction in FEV₁, current (albeit recent) non-smoking status, and rare exacerbations, means that she is at low risk despite her high symptom-based modified MRC Dyspnoea score of 3. It would, however, be important to record future exacerbations to allow on-going risk assessment.⁷

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Non-pharmacological management

COPD is characterised by irreversible airway obstruction, and complete resolution of breathlessness may not be achieved even with optimal pharmacotherapy. The exercise training and holistic approach of pulmonary rehabilitation may have an important role in addressing this lady's troublesome symptoms. The combination of exercise training, education and social interaction provided on pulmonary rehabilitation programmes has been shown to improve symptoms, quality of life, and physical and emotional participation in everyday life.^{8,9}

The support for anxiety and depression offered as part of the pulmonary rehabilitation programme may be of central importance to this lady, though referral for psychological therapies and use of antidepressant medication may also need to be considered. Initially, pre-programme assessment will allow the agreement of individualised targets that would define a successful outcome. Support from local patient groups such as Breathe Easy (run through the British Lung Foundation <http://www.blf.org.uk/BreatheEasy>) may be useful in the longer term.

Pharmacological management

This lady is only using a short-acting β_2 -agonist despite worsening dyspnoea. Guidelines on COPD suggest a step-wise approach to inhaled therapy, titrating up the types of inhalers to gain maximum control.^{10,11} However, before increasing inhaled medication, checking and reinforcing good inhaler technique is vital,^{12,13} involving consideration of a range of devices to ensure the patient uses the one most suited to her. Evidence suggests that the addition of long-acting β_2 -agonists¹⁴ and/or long-acting antimuscarinics^{15,16} can reduce symptoms and improve health status and exercise tolerance.

The place of inhaled corticosteroids (ICS) is subject to debate. There is good evidence that regular high dose ICS reduces exacerbations in patients with an FEV₁<50% predicted,^{17,18} though this will not help our patient as she rarely has exacerbations. Her priority is reduction in symptoms, and whilst there is no consistent evidence that ICS offer significant symptomatic benefit in COPD, individual responses to treatment may vary and the NICE guidelines (but not GOLD) suggests a trial of combination treatment when breathlessness persists in spite of bronchodilator therapies.¹⁰ Any benefits come at the cost of an increased risk of pneumonia as well as oral candidiasis, voice hoarseness and skin bruising.^{19,20}

However, this patient only has a moderate obstructive defect so if significant dyspnoea persists in spite of the above suggestions, further assessment at a specialist respiratory clinic may be warranted. This would allow full lung function tests to be performed including gas transfer and lung volumes (that are not routinely available in primary care), and further assessment with CT scans which in specific clinical situations may lead to some of the newer treatments including lung volume reduction therapy.

In summary, the essence of helping this lady deal with her COPD is a thorough, holistic, patient-centred assessment leading to evidence-based treatment and 'doing the simple things well'.

Handling editor Hilary Pinnock

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PERSPECTIVE

How I would manage a woman with COPD with few symptoms but at high risk of an exacerbation: a primary care perspective from Spain

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Clinical scenario

A 55 year-old cleaner attends for the third time this year with an exacerbation of her COPD. She has an increased cough, productive of clear sputum and breathlessness, with scattered rhonchi in the chest and an oxygen saturation level of 96%. She knows from experience that it will be at least 10 days before she is back to normal, and requests a medical certificate to be absent from work. She normally recovers well, and although she is always breathless on more strenuous exercise, she is not otherwise troubled by her symptoms which are eased sufficiently by her short-acting β_2 -agonist. She therefore stopped the inhaled corticosteroid/long-acting β_2 -agonist (ICS/LABA) prescribed after a previous exacerbation. Spirometry last year showed an FEV₁/FVC ratio of 0.58 and a post-bronchodilator FEV₁ of 47% predicted. She still smokes about 15 cigarettes a day.

Assessment

We would start by asking for details about her two main symptoms of cough and dyspnoea and checking that she had no general symptoms of fever. On examination, if there was no evidence of respiratory distress or concomitant conditions that could worsen the exacerbation, no more investigations would be considered at this time. The diagnosis of an exacerbation relies on the clinical presentation of an acute change of symptoms that is beyond normal day-to-day variation.^{1,2} In summary, our patient has a moderate exacerbation of her known COPD, characterised by moderate airflow limitation and frequent exacerbations. She is not compliant with the previously prescribed medications for the stable condition.

Management of the exacerbation

Current guideline management of the exacerbation is based on the severity of the exacerbation^{1,2} and the likelihood of infectious aetiology based on Anthonisen criteria.³ More than 80% of exacerbations can be managed in an outpatient setting. She is normally prescribed a short course of oral corticosteroids for her wheeze, and is recommended to increase her short-acting bronchodilators. Antibiotics would be indicated if her sputum becomes purulent.¹ Early review after 72 hours

is important to check that she has improved, to advise her when to reduce the emergency treatment, and to recommence maintenance therapy with a combination inhaled corticosteroid/long-acting β_2 -agonist (ICS/LABA) inhaler.

Routine follow-up and maintenance treatment

We would plan another scheduled visit four weeks later to reassess our patient in a stable condition. Even though previously she has not been motivated to stop smoking, we will again encourage her to consider a quit attempt and offer support from our practice 'stop smoking' group. Her past history suggests that she usually recovers well, with minimal dyspnoea (mMRC score = 2), and it is likely that she will again decide to discontinue regular inhaled medication a few weeks after the exacerbation.

The GOLD 2011 update recommends carrying out a multidimensional evaluation,¹ which – in addition to the severity of airway obstruction – also considers exacerbation frequency, symptoms (especially dyspnoea), and a broader assessment of the impact of COPD measured with a validated tool such as the COPD Assessment Test (CAT).^{4,5} According to this new approach, the patient belongs to

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