The role of dual bronchodilators in the treatment of chronic obstructive pulmonary disease (COPD)

An interview with Dr Owen Johnson

COPD is characterised by airflow obstruction that is not fully reversible. The airflow obstruction does not change markedly over several months and is usually progressive in the long term.¹ Three million people in England have COPD and the disease causes around 23,000 deaths in England each year.²

Choosing the right treatment for patients is important for their quality of life and long-term management, with the aim of relieving and reducing the impact of symptoms, whilst minimising the risk of adverse health events.

GSK UK Pharmaceuticals talks to Dr. Owen Johnson, a respiratory consultant based at Pinderfields hospital in Wakefield, Yorkshire. Dr. Johnson is involved in the formulary decision making process and guideline creation. Dr. Johnson gives his view on the use of dual bronchodilators (Long Acting Muscarinic Antagonist in combination with Long Acting β₂ Agonist [LAMA/LABA]) in the treatment of COPD.

Dr. Johnson, tell us about your role and where you work?

I am a consultant in respiratory medicine and head up the respiratory department of Mid Yorkshire NHS Trust, which has hospitals in the former coaling areas of Wakefield, Pontefract and Dewsbury.

The department provides respiratory services for two local CCGs who between them serve a patient population of about 750,000. The department provides respiratory services for two local CCGs who between them serve a patient population of about 500,000. Unfortunately our COPD rates are higher than the national average (1.9%).³

My daily role involves looking after acute respiratory admissions to hospital and managing people with COPD, sleep disorders and ventilatory problems in an out-patient setting.

What are your objectives with COPD treatment?

My two main objectives are to reduce the impact of COPD on patients’ lives, by reducing breathlessness and the frequency of their exacerbations, and to keep them out of hospital.

I’m privileged to be regarded as one of the leading COPD specialists in the area, and as such have been working with a group comprising various stakeholders from Mid Yorkshire NHS Trust, Calderdale and Huddersfield NHS Foundation Trust, and their CCG partners, to develop the local COPD guidelines.

Developing the guidelines together means there is consistency across the region. We have recently agreed and published our new Inhaler Guidelines and are in the process of finalising.

GOLD and NICE provide frameworks to assist healthcare professionals when choosing the class of medicine for COPD patients. What is your view of these frameworks?

Global Initiative for Chronic Obstructive Lung Disease (GOLD) use a quadrant management tool that draws together a measure of the impact of symptoms and assessment of the risk of having future serious health events and provides recommendations for different classes of medicines for patients at different stages of their disease.⁴

The National Institute for Health and Care Excellence (NICE) COPD guidelines for patients over the age of sixteen, primarily focuses on how to treat COPD patients, based on their FEV₁ values.⁵

I personally find the GOLD guidelines easier to follow and feel they guide people to prescribe more appropriately. I find the NICE guidelines harder to navigate and believe they encourage healthcare professionals to over prescribe inhaled steroids, regardless of the severity of a patient’s risk profile. The GOLD guidelines, I think are much better designed and user-friendly as they guide people more accurately to give the right medication for the right patient depending on their disease severity.

There are known risks associated with the overuse of inhaled steroids, particularly in patients who do not need them, so I have been working with the Trust to develop our local Inhaler Guidelines and COPD Clinical Guidelines in line with GOLD guidance.

Dual bronchodilators are a recent addition to COPD treatment, what experience do you have with LAMA/LABAs in COPD? How important is the role of LAMA/LABA in the treatment of COPD?

I am very passionate about using dual bronchodilators early in the treatment of COPD and think that in the future, breathless patients with COPD will start with a LAMA/LABA combination and you will add and ICS to that, only if necessary.

Wakefield CCG and North Kirklees CCG use Anoro® (umeclidinium/vilanterol) in preference to other LAMA/LABA combinations and feedback from patients has been very positive.

In some instances, we have moved patients that are currently being treated with triple therapy in COPD (ICS/LABA in combination with a LAMA) to dual bronchodilator therapy (LAMA/LABA) and some patients have reported that they don’t miss the steroid component and in some instances that they even feel better. (HCPs should only consider withdrawing steroids after an informed consultation with the patient and the clinical decision should be based on an assessment of the benefit and the risk for the individual patient).

How do the local guidelines reflect this?

The aim of our guidelines is to drive awareness of the LAMA/LABA class of respiratory medicine, and educate healthcare professionals about the benefits of their early use in the treatment of COPD.

For the next year or so our clinical guidelines will closely follow GOLD, but my aim is to persuade the CCGs to take them a step further to stipulate that early and accurate diagnoses of COPD needs to be achieved in primary care by using quality assured measures and tests, including spirometry.

The patients should then start on a bronchodilator, referred for pulmonary rehabilitation and given the appropriate vaccinations. If they then find their symptoms are not controlled they should be referred to secondary care where we can use phenotyping and other in-depth prescribing information can be found at the end of this document.

References:

1. NICE Available at https://www.nice.org.uk/guidance/cg101/chapter/Working-definition-of-COPD accessed Feb 2017

2. NHS COPD Commissioning toolkit Available at https://www.gov.uk/government/publications/commissioning-toolkit-for-respiratory-services accessed Feb 2017

3. Quality Outcomes Framework Available at https://www.gpcontract.co.uk/browse/UK/Chronic%20obstructive%20pulmonary%20disease%20accessed%20Feb%202017

tests to assess them in more detail. This may increase referral rates to secondary care, but I believe it would enable us to achieve a more accurate diagnosis and initiate a more accurate treatment plan.

**What outcomes have you had as a result of these guidelines?**

I am increasingly engaging my colleagues within secondary care about the growing role of LAMA/LABA in the management of COPD and as a result, there has been a significant rise in LAMA/LABA prescribing, especially in patients who have an adverse risk of pneumonia with inhaled steroids.

The shift has been less marked in primary care where changing clinical practice takes more time. I have spent a lot of time lecturing at primary care study days, encouraging more LAMA/LABA prescribing.

The results are hard to quantify as we don’t monitor prescribing patterns, but certainly our medicines optimisation team and the regulatory arm of the CCG are aligned in their thinking.

**What advice would you give to other healthcare professionals when reviewing or creating new guidelines or patient pathways for COPD, particularly with respect to bronchodilator choices?**

In answer to the first part of the question, my advice would be not to think of the guidelines as a text book on how to manage COPD that needs to be read from cover to cover. Instead it should be picked up and used as a guide when faced with a specific situation. To try and tackle the guidelines in one sitting would be overwhelming.

When it comes to creating new guidelines or patient pathways for COPD, I will always think about the needs of patients first. Paramount in my mind is ensuring they are correctly diagnosed from the start. There need to be the correct measures and tests in place at the beginning of the process to ensure patients are accurately diagnosed before an appropriate treatment plan can be considered. I believe that if this were the case we would see more and more patients being initiated on a bronchodilator.

As an aside, I also think there is a need for the development of a secondary care respiratory pathway that takes into consideration the fluidity of junior doctors. We invest heavily in educating consultants and our primary care colleagues but do not have a clear approach to how we manage COPD patients who have been admitted to an emergency department. Having a care pathway which guides junior doctors through the correct things to ask about, measure and manage would be useful.

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( Please consult the full Summary of Product Characteristics (SmPC) before prescribing)

Anoro® 55/22mcg (umeclidinium bromide /vilanterol [as trifenatate]) Inhalation powder. Each single inhalation provides a delivered dose (the dose leaving the mouthpiece) of 55 micrograms umeclidinium (equivalent to 65 micrograms of umeclidinium bromide) and 22 micrograms of vilanterol (as trifenatate). Indications: Anoro is indicated as a maintenance bronchodilator treatment to relieve symptoms in adult patients with chronic obstructive pulmonary disease (COPD). Dosage and administration: Inhalation only. One inhalation once daily of Anoro. Contraindications: Hypersensitivity to the active substances or to any of the excipients (lactose monohydrate and magnesium stearate). Precautions: Anoro should not be used in patients with asthma. Treatment with Anoro should be discontinued in the event of paradoxical bronchospasm and alternative therapy initiated if necessary. Cardiovascular effects may be seen after the administration of muscarinic receptor antagonists and sympathomimetics therefore Anoro should be used with caution in patients with severe cardiovascular disease. Anoro should be used with caution in patients with urinary retention, narrow angle glaucoma, convulsive disorders, thyrotoxicosis, hypokalaemia, hyperglycaemia and severe hepatic impairment. No dosage adjustment is required in renal or mild to moderate hepatic impairment. Acute symptoms: Anoro is not indicated for acute episodes of bronchospasm. Warn patients to seek medical advice if short-acting inhaled bronchodilator use increases, a re-evaluation of the patient and of the COPD treatment regimen should be undertaken. Interactions with other medicinal products: Avoid β-blockers. Caution is advised when co-administering with strong CYP3A4 inhibitors (e.g. ketoconazole, clarithromycin, itraconazole, ritonavir, telithromycin). Anoro should not be used in conjunction with other long-acting β₂-adrenergic agonists or medicinal products containing long-acting muscarinic antagonists. Caution is advised with concomitant use with methylxanthine derivatives, steroids or non-potassium-sparing diuretics as it may potentiate possible hyponatraemic effect of β₂-adrenergic agonists. Fertility, pregnancy, and breast-feeding: No available data. Balance risks against benefits. Side effects: Common (≥1/10 to <1/100): urinary tract infection, sinusitis, nasopharyngitis, pharyngitis, upper respiratory tract infection, headache, cough, oropharyngeal pain, constipation and dry mouth. Other important side effects include: Uncommon (≥1/1,000 to <1/100) atrial fibrillation, supraventricular tachycardia, rhythm idioventricular, tachycardia, supraventricular extrasystoles, palpitations, and hypersensitivity reactions including rash. Rare (≥1/10,000 to <1/1,000) anaphylaxis, angioedema, and urticaria. Glaucoma, vision blurred, intraocular pressure increased and paradoxical bronchospasm. See SmPC for other adverse reactions. Legal category: POM. Presentation and Basic NHS cost: Anoro®, Ellipta®, 1 inhaler x 30 doses, Anoro® Ellipta® 55/22mcg - £32.50. Marketing authorisation (MA) no. 55/22mcg 1x30 doses [EU/1/14/898/002]; MA holder: Glaxo Group Ltd, 980 Great West Road, Brentford, Middlesex TW8 9GS, UK. Last date of revision: Jan 2017. UK/UCV/0095/15(2), Anoro® and Ellipta® are registered trademarks of the GlaxoSmithKline group of companies. All rights reserved. Anoro® was developed in collaboration with Innoviva Inc. Adverse events should be reported. Reporting forms and information can be found at www.mhra.gov.uk/yellowcard. Adverse events should also be reported to GlaxoSmithKline on 0800 221 441. The production of this case study was carried out by GSK. The healthcare professional involved received no payment for his input.