Barns Medical Practice
Service Specification Outline:

The Diagnosis and Management of Chronic Obstructive Pulmonary Disease

Up-dated: November 2019 Review Date: November 2020

Introduction

Chronic Obstructive Pulmonary Disease (COPD) is characterised by airflow obstruction that is not fully reversible. It is progressive and predominantly caused by smoking. The damage results in chronic inflammation that differs from asthma. The object of correct management of COPD is to reduce mortality, reduce exacerbations and cut down hospital admissions. It also hopes to achieve optimum health benefits.

Symptoms tend to be breathlessness on exertion, chronic cough, regular sputum production, frequent winter bronchitis and wheeze. Consideration should also be given to those complaining of fatigue, effort intolerance, weight loss, ankle swelling, chest pain and haemoptysis (coughing up blood).

Diagnosis

The diagnosis should be based on signs and symptoms, history taking and supported by a breathing test called 'spirometry and reversibility'. Patients are generally over 35, smokers and with one or more of the above symptoms.

The MRC 1-5 dyspnoea score is recorded to ascertain the degree of breathlessness incurred and the CAT (COPD Assessment Test) score helps the clinician to decide the best treatment for the individual patient. If spirometry results show a FEV1 (forced expiratory volume) less than 80% predicted and FEV1/FVC is less than 0.7 or 70% a diagnosis can be confirmed. If FEV1 is greater than 80%refer back to GP for differential diagnosis.

Global Initiative for Chronic Obstructive Lung Disease. Global strategy for Diagnosis, Management and Prevention of Chronic Obstructive Pulmonary disease. Report 2019. Available online at http://www.goldcopd.org [Accessed 27/08/2019].

The diagnostic code for COPD #h3z should be coded priority 1 and a Problem created.

Annual Review

- A 20 minute appointment should be offered with the practice nurse and the COPD template within the consultation manager completed.
- MRC score should be recorded as well as, Pulse oximetry, CAT score and FEV1. (Consider referral to respiratory if SA02 is less than 93%).
- Check inspiratory flow with in-check dial – DPI 30-90l/min; MDI 30-60l/min
- Smoking status recorded and cessation advice given
- Inhaler technique observed /taught. Spacer devices are compatible with MDI (metered dose inhalers) and inhaled drugs can be administered via a spacer by single inhalation or tidal breathing.
- Spacers should be washed at least monthly and replaced annually.
- COPD reviews should be tailored to meet the needs of the individual patient where goal planning is discussed to identify health needs, reduce exacerbations and maximise health.
- The importance of exercise, nutrition, advanced care planning and telehealth should be discussed.
- Vaccinations for Pneumococcal and Flu should be offered.
- Self management plans should be discussed and medication in reserve organised if deemed appropriate. Thereafter an anticipatory care plan should be completed.
- If the MRC score is greater than 3, a referral to pulmonary rehab should be offered. A patient information sheet is available on Barnsnet and guidance for referral can be found on the athena website.

Treatment

- It is important that inhalers are prescribed only after patients have received adequate training in the use of the device.
- For intermittent breathlessness and exercise limitation, offer short acting bronchodilators (SABA) 1st choice is salbutamol MDI with or without spacer. Second choice is Easyhaler Salbutamol.
- If symptoms persist add either long acting b2-agonist (LABA) 0r long acting muscarinic antagonist (LAMA).
- LABA first choice is Formoterol Easyhaler . Second choice is Atimos Modulite MDI.
- LAMA first choice is Spiriva Respimat and second choice is Incruse Ellipta.
- If still having more significant symptoms and FEV1 > 50% and < 1 exacerbation in last 12 months not requiring hospital admission: stop LAMA or LABA and use combination LAMA/LABA
  First choice is Anoro ellipta and second choice is Spiolto Respimat.
- If FEV1 < 50% or 2 or more exacerbations in one year or one requiring hospital admission stop any existing LABA and use LABA/ICS. Separate LAMA can still be used.
- First choice is Relvar Ellipta second choice is Fostair.
- Long term monotherapy with inhaled corticosteroids is not recommended in COPD as it is less effective than the combination inhaled corticosteroids. A significant proportion of patients with COPD may not benefit from ICS and clinicians should observe if the addition of this inhaler improves symptoms and reduces exacerbations. ** If no improvement is noted consider discontinuing the ICS but continue with the LAMA/LABA.

- Consider other treatments such as theophylline if inhaled therapy is ineffective. Carbocisteine could be considered with patients who have chronic cough and excessive sputum but should not be prescribed to prevent exacerbations in patients with stable COPD. The use of Carbocisteine should be reviewed after 4 weeks and if no benefit stop.
- Longterm Oxygen Therapy (LTOT) is indicated for patients with severe resting hypoxaemia. Referrals for LTOT should be made to the respiratory nurse specialists.

http://athena/adtc/DTC%20%20Clinical%20Guidelines/ADTC64A.pdf

Resources

Information leaflets on COPD can be found on the internet and patient.co.uk. Patients can be signposted to fresh-air-shire and local pharmacies if they wish additional support with smoking.
http://www.nhsaaa.net/services-index/f-fresh-air-shire.aspx
http://www.nhs.uk/conditions/chronic-obstructivepulmonarydisease/pages/introduction.aspx

NHS A&A Pulmonary Rehab Programme

Staff involved and training required

- All RGNs within the practice who have completed COPD education and are committed to regular updates.
- The HCA has now been delegated the task to carry out the spirometry procedure. She has been taught by trained staff and has been deemed competent. She must report to GP or ANP,NP or Practice Nurse if any problems are experienced with the procedure. For the procedure of spirometry, salbutamol must be prescribed prior to the procedure.

Advertising of service to patients

Patients are contacted annually via letter or text .Barns Medical Practice advertises this service on the internet and actively encourages patients to make annual review appointments.

New Changes: Combination products (ICS/LABA/LAMA) for Group D patients with FEV1 less than 50% predicted normal.
MDI Trimbow (Beclometasone dipropionate/formoterol fumarate dehydrate/glycopyrronium
DPI Trelegy Ellipta (Fluticasone Furoate/Umeclidinium/Vilanterol

http://athena/adtc/DTC%20%20Clinical%20Guidelines/ADTC64A.pdf
https://www.medicines.org.uk

Area Drug and Therapeutics Committee

COPD Quick Guide: Pharmacological Management

The Global Initiative for Chronic Obstructive Lung Disease (GOLD) strategy document [1] provides recommendations based on clinical evidence for the management of COPD.

To determine diagnosis patients should undergo spirometry to determine the severity of airflow limitation. In addition they should undergo assessment of either dyspnoea using the modified Medical Research Council (mMRC) questionnaire [2] or on symptoms using the COPD Assessment Test (CAT) [3] and exacerbation history. This places treatment into one of the GOLD ABCD groups (see page 2). The Medical Research Council (MRC) score is also commonly used in general practice.

The pharmacological treatment of stable COPD is based upon examination of symptoms and future risk of exacerbations with a shift towards a more personalised approach to treatment with strategies for escalation and de-escalation of pharmacological therapy. The aim is to reduce symptoms, reduce the severity and frequency of exacerbations and to improve exercise tolerance and health status. Each time a patient attends for a consultation with a healthcare professional it is important to address dosages and effectiveness of current drug regimen, adherence to regimen, inhaler technique and any adverse effects. Refer to appendix for current formulary choices.

Non Pharmacological Treatments

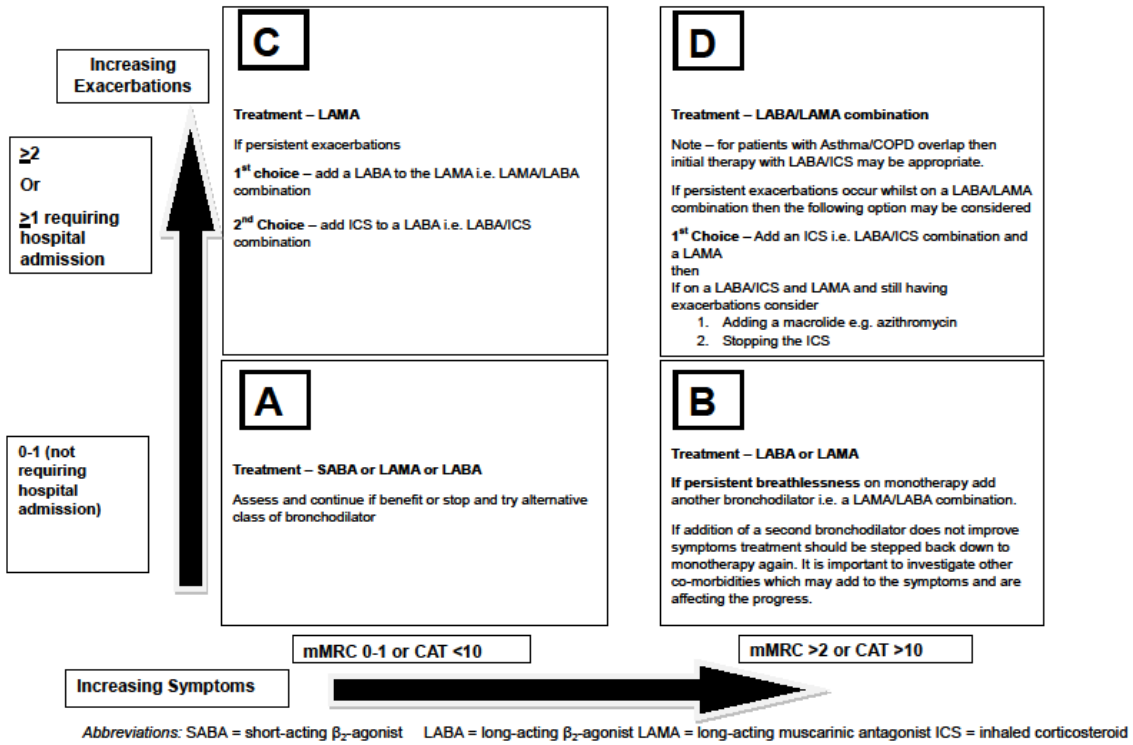
Although this is principally a pharmacological guideline the following interventions should be mentioned which play a very important part in the overall management of patients with COPD.

 Smoking cessation is key and should be offered to all COPD patients where appropriate.

 Pulmonary rehabilitation should be an integrated part of COPD management and should include those who have had a recent hospital admission for an exacerbation and those who consider themselves functionally disabled by COPD. Pulmonary rehabilitation improves symptoms, quality of life and physical and emotional participation in everyday activities [1].

 Physical Activity COPD patients should be encouraged to maintain or improve physical activity levels.

 Education and Self-Management improves health status and ability to cope with illness.



Inhaled Therapy

General principles:

- All patients should be prescribed a SABA (short-acting β_2-agonist) as required as rescue therapy e.g salbutamol MDI
- It is important that inhalers should be prescribed only after patients have received training in the use of the device and have demonstrated satisfactory technique
- At every consultation there should be an assessment and evaluation of inhaler technique.
- **With the exception of salbutamol metered dose inhaler (MDI)** all inhalers should be prescribed **by brand name**

Inhaled Corticosteroids

Inhaled corticosteroids (prescribed in combination with LABAs) should only be used in patients within group C or D who have persistent exacerbations despite treatment with a LABA/LAMA combination or those with Asthma/COPD overlap syndrome. There is a potential risk of developing side effects (including non-fatal pneumonia and slight increase in risk of fractures) in people with COPD treated with inhaled corticosteroids.

A significant proportion of patients with COPD may not benefit from inhaled corticosteroids and it is important clinicians observe whether the addition of an inhaled corticosteroid improves symptoms and/or reduces exacerbations. If no improvement is

seen, or an episode of pneumonia occurs, then consider discontinuing the inhaled corticosteroid but continuing with the LABA/LAMA combination.

Oral Corticosteroids

Long term treatment with daily ORAL corticosteroids is NOT recommended in COPD although they can play a role in the management of acute exacerbations.

Long Term Antibiotics

Although studies have shown the effect of some antibiotics, such as azithromycin 500mg three times per week in reducing the exacerbation rate, there are also some risks to be considered. Macrolide antibiotics carry a risk of QT prolongation, with resulting arrhythmia and sudden cardiac death, although azithromycin does carry the lowest risk of QT prolongation of all macrolides. Hearing loss and bacterial resistance are also other adverse effects to be considered. Given the risks, azithromycin as long term prophylaxis should NOT be prescribed for everyone with COPD and in addition it has also been shown that azithromycin is not known to be effective in current smokers.

It is recommended that the prescribing of azithromycin is under the recommendation of a specialist respiratory physician. It should also be noted that this is an "off label" use of azithromycin – please refer to the NHS Ayrshire & Arran Code Of Practice for Medicines Governance Section 9 (b) Off-label Use of Medicines for information (link).

Carbocisteine

Mucolytic therapy (carbocisteine) should be considered in patients not receiving inhaled corticosteroid with a chronic cough, productive of sputum. It may reduce exacerbations, although a few patients will benefit the overall benefits seem to be small and carbocisteine should NOT be prescribed routinely to prevent exacerbations in people with stable COPD.

The NHS Ayrshire & Arran joint formulary choice of mucolytic is acetylcysteine 600mg once daily (NACSYS) and must be prescribed by BRAND name. It is an effervescent tablet to be dissolved once daily in a half glass of water, preferably in the morning.

Review acetylcysteine 4 weeks after starting therapy and if no benefit is seen then the drug should be discontinued.

- If a patient is taking antibiotics concurrently it is advised that the antibiotic shoulde be avoided 2 hours before of after acetylcysteine administration.
- Caution is advised in patients on a sodium-restricted diet as NACSYS 600mg effervescent tablets contain 115mg of sodium per dose in the form of sodium hydrogen carbonate.
- Acetycysteine can react with rubber and metal (e.g. iron, nickel, copper) so if administration is required via enteral feeding tubes only glass or plastic delivery systems are recommended.

It is important patients prescribed carbocisteine are reviewed after 4 weeks and if no benefit then the mucolytic therapy should be discontinued.

Carbocisteine should be prescribed at an initial dose of 2.25g daily in divided doses (two capsules three times daily), reducing to 1.5g daily (one capsule four times daily OR two capsules twice daily) after **4 weeks** if a benefit demonstrated.

Theophylline

 Theophylline has a modest bronchodilator affect in stable COPD when compared against placebo. It should only be used after a trial of short-acting bronchodilators and long-acting bronchodilators, or in patients who are unable to use inhaled therapy, as there is a need to monitor plasma levels and interactions.

 Particular caution needs to be taken with the use of theophylline in older people because of differences in pharmacokinetics, the increased likelihood of comorbidities and the use of other medications.

 The effectiveness of the treatment with theophylline should be assessed by improvements in symptoms, activities of daily living, exercise capacity and lung function.

 Theophylline should always be prescribed by BRAND name, the formulary choice being Uniphyllin® Continus®.

 Plasma theophylline concentration should be checked at least 5 days after starting treatment and 6-8 hours after a dose. Normal levels are 10-20mg/litre. Once stable theophylline levels should be checked by the General Practitioner only if dosage adjustment, toxicity is suspected or if a new medication added or removed where there is a possibility of a potential drug interaction.

 The dose of theophylline prescribed should be reduced at the time of an exacerbation if a macrolide or fluoroquinolone antibiotics (or other drugs known to interact) are prescribed.

Oxygen

Long term oxygen therapy is indicated for patients with severe resting hypoxaemia.
All patients thought to require oxygen should be referred directly to the respiratory clinical nurse specialists for assessment. Below is the referral guidance for secondary care.

 Patients must have an established respiratory diagnosis

 Patients must be non-smoking (minimum abstinence of 3 months)

 SpO2 ≤ 92% on air at rest

 SpO2 <90% on exertion

 Patients being discharged from hospital with hypoxia post-exacerbation COPD for assessment when stable i.e. 4-6 weeks after discharge

Exacerbations

An exacerbation of COPD is defined as an acute worsening of respiratory symptoms that results in prescribing of additional therapy [1]. Exacerbations can be precipitated by many factors with respiratory infections being the most common one.
Short acting inhaled beta 2 agonists and/or short acting inhaled anti-cholinergics are recommended as the initial bronchodilators to treat an acute exacerbation. The duration of systemic corticosteroids and antibiotics if prescribed should be no longer than 5-7 days.
Both the GOLD Guidelines and the European Respiratory Society/American Thoracic Society guideline [4] recommends that for hospitalised patients that oral corticosteroids are administered in preference to intravenous corticosteroids. In addition these patients should be prescribed dalteparin 5000units as prophylaxis for thromboembolism as they are at increased risk of a deep vein thrombosis or pulmonary embolism.

Vaccination

Influenza (annually) and pneumococcal vaccination (once only) is recommended for all COPD patients. It decreases the incidence of lower respiratory tract infections. Vaccination appears to be more effective in older patients and those with more severe disease or cardiac co-morbidity.

References

1. Global Initiative for Chronic Obstructive Lung Disease. Global strategy for Diagnosis, Management and Prevention of Chronic Obstructive Pulmonary disease. Report 2017. Available online at http://www.goldcopd.org. Accessed 06/05/2017

2. Fletcher CM. Standardised questionnaire on respiratory symptoms: a statement prepared and approved by the MRC committee on the Aetiology of Chronic Bronchitis (MRC Breathlessness score). BMJ 1960; 2: 1662. Available online at https://www.mrc.ac.uk/research/facilities-and-resources-for-researchers/mrc-scales/mrc-dyspnoea-scale-mrc-breathlessness-scale/ Accessed 06/05/2017.

3. COPD Assessment Test (CAT). Last updated October 2016. Available online at http://www.catestonline.org/.Accessed 06/05/2017

4. Thoracic Society guideline. Wedzicha JA, Miravitlles M, Hurst JR, et al. European Respiratory Journal 2017 49: 1600791; http://erj.ersjournals.com/content/49/3/1600791 Accessed 06/05/2017