COPD-X Summary of Changes V2.59, August 2019

The latest update of The COPD-X Plan: Australian and New Zealand Guidelines for the Management of COPD has been provided by Lung Foundation Australia in conjunction with the Thoracic Society of Australia and New Zealand following the August 2019 meetings of the COPD-X Guidelines Committee.

Implications for Clinical Practice

All changes made to the document are outlined below and those highlighted in yellow are differentiated as the most significant and likely to have an impact on clinical practice.

C. Confirm diagnosis and assess severity

C1 Aetiology and natural history

Hookah (a type of water pipe) smoking is increasing, particularly in developing countries. In an Iranian study involving 245 adults aged ≥35 years who had at least 15 years of hookah smoking history and matching controls, the prevalence of COPD among hookah smokers was 10.2%; higher rates were found in older age; longer duration of hookah smoking; in men; history of ≥3 hookahs/day; history of cough for ≥2 years; history of sputum for ≥2 years; and a history of dyspnoea for ≥2 years (Bahtouee 2018).

Analysing the lifetime job-histories of ~100,000 individuals from a UK general population found that the following specific occupation categories are associated with an increased COPD risk: sculptor, painter, engraver, art restorer; gardener, groundsman, park keeper; food, drink and tobacco processor; plastics processor, moulder; agriculture, and fishing occupations not elsewhere classified; and warehouse stock handler, stacker. These associations were confirmed among never-smokers and never-asthmatics and were influenced by employment duration. Gathering job-history and focused preventive strategies in COPD high-risk jobs are warranted (De Matteis 2019).

C2.3 Spirometry

A study by Bhatt (Bhatt 2014) shows that the fixed cut-off of 0.7 identified more people with CT diagnosed emphysema.

Concerning healthcare utilisation and COPD mortality, a population-based study of 11, 077 adults in the US found that an FEV_1/FVC ratio of <0.70 identified individuals who were at risk of COPD hospitalisations and COPD-related mortality, with equal or better accuracy than other ratios ranging from 0.75 to 0.65, and with more accuracy than the lower limit of normal (Bhatt 2019) [evidence level III-2]. This study supported using the fixed FEV_1/FVC ratio of <0.70 to identify individuals at risk of clinically significant COPD.

C2.5 COPD case finding

Retrospective data suggests that females are at higher risk of presenting with a moderate or severe exacerbation than men (Stolz 2019).

O. Optimise Function

O1.2.1 Long-acting muscarinic antagonists (LAMA)

Addition of level II evidence showing that in addition to reducing the rate of moderate to severe exacerbations, [evidence level I] aclidinium does not increase major adverse cardiovascular events (Wise 2019).

O9.2 Lung volume reduction surgery and bronchoscopic interventions

Addition of a sentence stating that although a variety of non-surgical techniques are under investigation, only valves are in regular clinical use in Australia.

In a meta-analysis by van Geffen et al, data from randomised controlled trials across all modalities of lung volume reduction (surgical and endobronchial) were analysed (van Geffen 2019). The mean differences compared with the control were an increase in FEV_1, improvement in 6-minute walk test (6MWT) and reduction in the St George's Respiratory Questionnaire (SGRQ). The authors note a high risk of bias due to lack of blinding.

van Geffen then performed a meta-analysis of endobronchial lung volume reduction surgery. 6 trials were included in the analysis of endobronchial valves (620 participants) and 3 trials were included in the analysis of endobronchial coils (458 participants). The authors reported improvements in lung function, 6-minute walk distance and symptom scores with both modalities. The most frequent adverse events with endobronchial valve treatment were pneumothorax and COPD exacerbations. The most common adverse events with endobronchial coils were pneumonia, COPD exacerbations and pneumothorax. There was no difference in early mortality between valves/ coils and control, however the confidence intervals were very wide. There is concern regarding the lack of sham bronchoscopy and/or unclear status of blinding in some studies that may cause a risk of bias (van Agteren 2017).

P: Prevent deterioration

P7. Mucolytic agents

A 2019 Cochrane Review (Poole 2019) [evidence level I] included 38 trials involving 10,377 participants with COPD or chronic bronchitis, who were randomised to receive at least daily oral N-acetylcysteine, carbocysteine, erdosteine, ambroxol, or placebo. The authors found treatment with mucolytics was associated with an increased likelihood of being exacerbation free during the period of study and calculated the number needed to treat with mucolytics for an average of nine months to keep an additional participant exacerbation free was eight (NNTB 8). For this outcome there was high heterogeneity, and the authors recommend caution with the interpretation of the results. Overall the effect size of the more recent trials was smaller. Further the number of people with one or more hospitalisation was reduced, but study results were not consistent. Mucolytic use resulted in a reduction of 0.43 days of disability per participant per month compared to placebo. The authors concluded that the use of mucolytics in patients with chronic bronchitis or COPD may produce a small reduction in the likelihood of an exacerbation, in days of disability per month, and possibly hospitalisation. There was no clinically or statistically significant effect on quality of life.

D: Develop a plan of care

D1.1 General Practitioner

Improving GP uptake of spirometry for COPD diagnosis and recommendation of evidence-based behavioural treatments, including smoking cessation and pulmonary rehabilitation, are key to better management of COPD in Australian primary care.

D3. Self-management

Health coaching, when using motivational interviewing methods, and including components of goal setting and education, when delivered in person, has been demonstrated in a meta-analysis of 10 RCTs, to lead to significant improvements in quality of life, as well as COPD–related hospital admissions. However, the benefit appears not to be sustained beyond 12 months post-intervention (Long 2019).

D5. Treat anxiety and depression

A recent Cochrane review concluded that, while cognitive behaviour therapy may be an effective treatment for depression in COPD, the quality of the evidence is currently limited (Pollok 2019).

X: Manage eXacerbations

X2.2.3 Antibiotics for treatment of exacerbations

A study of 220 patients hospitalised with exacerbations of COPD with clinical features of infection, randomised to CRP-guided antibiotic therapy (antibiotics if CRP ≥ 50mg/L) or GOLD criteria based antibiotic treatment found a significant reduction in antibiotic use in the CRP guided group, with an absolute reduction in antibiotic use of 14.5% (Prins 2019) [evidence level II]. An open label RCT (n=653) of patients in the UK showed that in patients with COPD exacerbations treated in primary care, use of point-of-care C-Reactive Protein (CRP) testing to guide prescribing of antibiotics lowered patient-reported antibiotic use (OR 0.31, 95% CI 0.20 to 0.47) (Butler 2019) [evidence level II]. The judicious use of CRP testing in primary or tertiary care may assist in determining the need for antibiotics for exacerbation management.

X3.7 Discharge planning

A systematic literature review of 13 evidence based clinical pathways used in either primary care or hospital settings across 10 countries has demonstrated a reduction in COPD re-admissions by 34% [evidence level I], although with little reduction in length of stay. Studies with longer follow ups appeared more likely to detect benefits (Plishka 2019).

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