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Consultant Pharmacist Continuing Education Series | November 2019

ASTHMA IN OLDER PEOPLE

Asthma is a chronic inflammatory disorder of the airways. People with asthma experience episodes of wheezing, breathlessness and chest tightness due to widespread narrowing of the airways. Asthma is associated with poorer quality of life. An estimated 7–15% of Australians aged 65 years or over have asthma, similar to asthma prevalence in the general adult population. Asthma is often under-diagnosed and commonly misdiagnosed in older people.

Asthma in older people

Age-related changes occur progressively in the lungs. Ageing is associated with increased work of breathing, weakening of respiratory muscles, and inflammation of the airways. New presentation of asthma can occur at any age. Adult-onset asthma should be considered when symptoms such as dyspnoea, wheeze or cough present. Many older people may under-report symptoms and attribute breathlessness to age and other conditions. Older people are more likely to have poor perception of their symptoms. Wheezing can also occur in obese people who do not have asthma. Other conditions that may present as breathlessness include heart failure, acute bronchitis, bronchiectasis, cancer and pulmonary embolism (PE). Spirometry is the most appropriate test for confirmation of asthma diagnosis. Residents should empty their bladder before spirometry.

If spirometry before and after bronchodilator demonstrates expiratory airflow limitation that is not completely reversible, the possibility of COPD as an alternative diagnosis or of asthma–COPD overlap should be considered, even if the person has never smoked. Older patients may have reduced response to bronchodilators and inhaled corticosteroids (ICS) due to age-related changes such as stiffening of the chest wall, reduced respiratory muscle function, and an increase in residual volume from loss of elastic recoil in the lung.

Medication-induced asthma

Some medicines can cause bronchoconstriction and worsen asthma control such as beta-blockers used the management of hypertension, heart failure, angina, arrhythmias, post-myocardial infarction (MI), migraine prevention and glaucoma. Non-selective beta-blockers such as propranolol should be avoided; cardio-selective beta-blockers such as metoprolol are preferred in people with asthma. Non-steroidal anti-inflammatory drugs (NSAIDs) can worsen asthma in susceptible people. Complementary medicines such as royal jelly and echinacea may trigger asthma symptoms. Psychotropic medications such as sedative-hypnotics and antipsychotics increase the risk of aspiration, which can cause or exacerbate a cough and wheezing.

Co-morbidities

Common conditions in older people that may affect asthma control include:

- Obesity
- Gastro-oesophageal reflux disease (GORD)
- Obstructive sleep apnoea
- Osteoporosis
- Cardiovascular disease

Dementia, Parkinson's disease and stroke can make older people particularly prone to aspiration.

Asthma management

Management of asthma in older people involves appropriate and judicious use of a range of medicines based on symptom control and risk of future exacerbations:

- Short-acting beta2-agonist (SABA)
- Long-acting beta2-agonist (LABA)
- Long-acting muscarinic antagonist (LAMA)
- Inhaled corticosteroid (ICS)
- Inhaled corticosteroid/long-acting beta2-agonist (ICS/LABA)
- Oral corticosteroid (OCS)

First-line therapy for older people with asthma is low-dose inhaled corticosteroids or 'preventer'. Inhaled corticosteroids should be prescribed at the lowest dose needed to maintain good asthma control.

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Low-dose ICS and their daily doses include:

- Budesonide (Pulmicort Turbuhaler) 200-400µg
- Beclomethasone dipropionate (Qvar Inhaler, Qvar Autohaler) 100-200µg
- Ciclesonide (Alvesco) 80-160µg
- Fluticasone propionate (Flixotide Inhaler, Flixotide Accuhaler, Fluticasone Cipla Inhaler) 100-200µg

SABAs or 'relievers' such as salbutamol (Ventolin, Asmol) or terbutaline (Bricanyl) should always be available to manage acute symptoms or flare-ups. It is not necessary to use a reliever prior to ICS use. Use of a reliever on 2 or more days per week is an indication of poorly controlled asthma and requires a review of treatment. Over-reliance on SABAs for asthma symptom relief can cause worsening of symptoms; and increase hospital admissions and deaths from asthma. Recently, budesonide/formoterol (Symbicort Turbuhaler and Rapihaler) anti-inflammatory reliever therapy was registered for as-needed use in people with mild asthma. It is not currently approved on the PBS for this use.

When a low-dose ICS does not control asthma symptoms, a low-dose combination regular preventer is the next step. Inhaler technique and adherence should always be assessed prior to stepping up. Combination preventer options include ICS/LABA as maintenance therapy or budesonide/formoterol (Symbicort) anti-inflammatory reliever plus maintenance therapy. Symbicort anti-inflammatory reliever plus maintenance therapy includes a twice daily maintenance dose plus as-needed inhalations for rapid relief of symptoms. ICS/LABA combination preventers include:

- Budesonide/formoterol (Symbicort Turbuhaler, Symbicort Rapihaler, DuoResp Spiromax)
- Fluticasone propionate/formoterol (Flutiform Inhaler)
- Fluticasone propionate/salmeterol (Seretide MDI, Seretide Accuhaler, Fluticasone + Salmeterol Cipla Inhaler
- Fluticasone furoate/vilanterol (Breo Ellipta)

LABAs should not be used alone, without an inhaled corticosteroid in people with asthma. If control is still not achieved, treatment is stepped up again to higher-dose combination regular preventer (ICS/LABA) plus reliever as needed. For most people, high doses of inhaled corticosteroids should be used for short periods only.

Tiotropium (Spiriva Respimat), a long-acting muscarinic antagonist (LAMA), may be added to maintenance ICS/LABA treatment in people with severe exacerbations requiring oral corticosteroids. When asthma is stable and well controlled for 3 months, stepping down to a lower dose ICS is recommended or stopping the LABA if the ICS dose is already low.

Oral steroids such as prednisone and prednisolone are effective in managing a flare-up or exacerbation. Older people are more susceptible to adverse effects of oral steroids including osteoporosis, cataracts and diabetes. Influenza and pneumococcal vaccination are recommended for all people aged over 65 years with asthma.

Inhaler devices

Most older people can use inhaler devices appropriately, with training and supervision. Nebulisers should be avoided as modern inhalers are just as effective. It is important to choose a device that the resident can use correctly and confidently. Medicines in the same class are equally effective, so the choice of device should be considered on the individual person's preference and capability. To avoid confusion and incorrect technique, one type of inhaler device should be used if possible. Technique should be observed and assessed on a regular basis. Residents with cognitive impairment or significant dexterity problems may require supervision for every administration.

Spacers should always be used with pressurised metered dose inhalers (pMDI). Small volume spacers are preferred, due to reduced lung capacity in older people. Some people may struggle to actuate a pMDI due to arthritis or weakness in the hands. They may find a Haleraid hand-grip device beneficial or prefer a breath-actuated inhaler e.g. Airomir Autohaler (salbutamol) or Qvar Autohaler (beclomethasone).

A minimal inspiratory flow rate is required for optimal deposition of the active ingredient in dry powder inhalers (DPIs). Pharmacists conducting Residential Medication Management Reviews (RMMRs) may help assess minimal inspiratory flow rate and advise on most appropriate inhaler device for each individual resident.

References

Australian Asthma Handbook