



CHRONIC COUGH

Chronic cough is a common and distressing symptom among older people in residential aged care. Cough is a vital protective reflex preventing aspiration and enhancing airway clearance. However, persistent cough may be disabling, affecting 5 to 10% of the adult population. Chronic cough can have a significant detrimental effect on a person's quality of life. It may be associated with significant sleep disturbances, stress urinary incontinence, cough syncope, anxiety, and depression.

An accurate diagnosis is essential for successful management of persistent cough. A chronic persistent cough is defined as a cough lasting more than 8 weeks in adults.

Why do we cough?

Cough is a reflex activity with elements of voluntary control, responsive to chemical and mechanical stimuli. It is protective in the presence of a foreign body or mucus hypersecretion. Cough fibres in the larynx can be sensitised by inflammation of the airway, making them more responsive to triggers.

Alarm symptoms

Alarm symptoms which may indicate a serious underlying disease and require further investigation include:

- Haemoptysis (coughing up blood)
- Smoker with > 20 pack-year smoking history
- Smoker over 45 years with new cough, altered cough or cough with voice disturbance
- Prominent dyspnoea (shortness of breath), especially at rest or at night
- Substantial sputum production
- Hoarseness
- Feeding difficulties
- Recurrent pneumonia
- Systemic symptoms (e.g., fever, weight loss, vomiting, oedema)

Gastro-oesophageal reflux disease (GORD) that is associated with weight loss, anaemia, haematemesis (vomiting blood) or melaena (blood in stools), vomiting, dysphagia (difficulty swallowing), odynophagia (painful swallowing) requires further investigation. Non-acid reflux is associated with cough and requires further investigation.

Causes

Tobacco smoke exposure is a significant trigger for cough. Both active smoking and environmental exposure are triggers. Smoking history and current cigarette consumption are predictors of cough frequency. People with chronic cough often complain of sensitivity to environmental irritants such as perfumes, bleaches and cold air.

Cough commonly persists following an acute viral respiratory tract infection and may last for more than 8 weeks.

Most chronic respiratory disease is associated with cough. People with asthma and/or chronic obstructive pulmonary disease (COPD) often complain of a cough, although other symptoms are usually present. In asthma, chest tightness, shortness of breath, wheeze, and exercise limitation are usually present. People with bronchiectasis will have a productive cough and recurrent chest infections.

Allergic rhinitis or hayfever may cause cough along with sneezing, watery nasal discharge, nasal itching and itchy watery eyes. A persistent cough can occur with chronic rhinosinusitis along with other symptoms such as nasal blockage, obstruction or congestion, purulent nasal discharge, facial pain, nausea, and a reduced sense of smell and taste.

Night-time reflux or inflammation of the pharynx from snoring may contribute to cough associated with obstructive sleep apnoea (OSA).

Interstitial lung disease produces a dry cough and is often associated with shortness of breath.

Recurrent aspiration associated with Parkinson's disease, stroke, dementia, COPD, or impaired consciousness can also be a cause of chronic cough.

Medication-related causes

ACE inhibitors, used for the management of high blood pressure and heart failure, can cause a persistent cough in about 15% of people. Angiotensin-receptor blockers (ARBs) do not affect the cough reflex. Beta-blockers may also trigger bronchospasm in some patients with asthma, which may present as a persistent cough.

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Calcium channel blockers for cardiovascular disease may worsen pre-existing reflux disease, causing increased cough.

Eye drops such as latanoprost used in the treatment of glaucoma may irritate the pharynx, causing a chronic cough. Pressure on the lacrimal duct after eye drop instillation will lessen systemic absorption.

Management of cough

Initial assessment of cough should include a thorough medical history, medication review, identification of triggers and assessment of need for further investigations. Underlying conditions such as asthma and COPD need to be optimally treated. Other nasal symptoms such as sneezing, nasal obstruction, and upper airway cough syndrome (previously called postnasal drip) should be treated appropriately.

For many people with chronic dry cough 'vocal hygiene' may break the cycle and continual urge to cough. Overuse of the voice should be avoided. Whilst it may be difficult to break the habit, persistent clearing of the throat should be avoided. Referral to a speech pathologist may be helpful.

For people with chronic productive cough, strategies to facilitate sputum clearance may be useful.

Environmental triggers such as cold dry air, perfumes, smoke, bleach, tobacco smoke and other inhaled irritants should be avoided. Smoking cessation is strongly recommended.

Cough control therapy, involving physiotherapy or speech therapy, and language therapy interventions can significantly reduce cough frequency and severity. This therapy may include education, cough suppression techniques, breathing exercises and counselling.

Medication management

A protracted cough that is wet, moist, or productive may occur with bacterial bronchitis usually responds to antibiotic treatment. Appropriate antibiotics for 2 to 6 weeks may be required. Antibiotics have no role in treatment of a post-viral cough.

Inhaled corticosteroids (ICS) should only be trialled for 2 to 4 weeks if clinical evidence of asthma is present. High-dose ICS may be more effective in reducing the severity and frequency of cough than low-to-moderate dosing as an empirical trial. If there is no response in 2-4 weeks the inhaled therapy should be stopped. A 2-4 week trial of montelukast could also be considered in those with a cough related to asthma. For people with cough variant asthma, bronchodilators such as salbutamol are usually effective.

International guidelines recommend a short-term trial of ICS and long-acting bronchodilator combination with chronic cough and COPD.

First-line therapy for persistent allergic rhinitis is intranasal corticosteroids, with or without oral or intranasal antihistamines. Oral and nasal decongestants should be avoided.

Management of chronic rhinosinusitis associated with allergic rhinitis involves nasal saline irrigation, and intranasal corticosteroids for a minimum trial of one month. Antibiotic therapy may be required for treatment of purulent chronic rhinosinusitis. A short course of oral prednisone or prednisolone may be beneficial in people with nasal polyps.

Residents with a chronic cough who complain of heartburn or regurgitation may benefit from an 8-12 week course of twice-daily proton pump inhibitors (PPIs). PPIs should be stopped if there is no response. In people with rare or no heartburn, PPIs are unlikely to be effective.

Low-dose morphine (5-10mg twice daily) has some benefit in people with chronic refractory cough; however, side effects may be significant. A positive response is usually seen within a week. Opioid-induced constipation and drowsiness should be expected. Codeine is generally not recommended.

Gabapentin, pregabalin and amitriptyline may be effective in chronic unexplained cough, particularly in combination with speech therapy. It appears that these agents reduce laryngeal hypersensitivity. Common adverse effects of these neuromodulatory agents include blurred vision, disorientation, dizziness, dry mouth, fatigue and nausea.

References

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- Eur Respir J* 2020;55:1901136.
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