PALCARE
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THE JIMMY S BILIMORIA FOUNDATION

PALLIATIVE CARE
GUIDELINES
FOR A HOME SETTING IN INDIA

COUGH

INTRODUCTION

Cough is a normal, but complex, physiological mechanism, under both voluntary and involuntary control. It protects the lungs by removing mucus and foreign matter from the larynx, trachea, and bronchi.

Cough is particularly a common symptom in lung cancer and has significant impact on the quality of life of patients and families. Severe cough can lead to dyspnoea, nausea/vomiting, sleep impairment, chest and throat pain and headache. Prolonged bouts of cough can be exhausting.

Causes of cough in advanced cancer:

Cancer related

- Direct - lung cancer or metastases, lymphangitis carcinomatosis, airway obstruction (intrinsic or extrinsic), pleural effusion, superior vena cava syndrome, tracheo-oesophageal fistula
- Indirect - anorexia-cachexia syndrome, pulmonary aspiration, pulmonary embolus, paraneoplastic syndrome

Treatment related

- Medications - angiotensin-converting enzyme inhibitor drugs (ACEI)
- Radiotherapy - pneumonitis/ fibrosis
- Chemotherapy - bleomycin, cyclophosphamide, Adriamycin (chemotherapy induced cardiomyopathy)

Concurrent disease

- Infections - upper respiratory tract infections, bronchopneumonia, bronchiectasis, post-nasal drip, sinusitis
- Recurrent aspiration - motor neurone disease, multiple sclerosis
- Airway Disease - COPD, bronchial asthma
- Other lung diseases - cystic fibrosis, interstitial fibrosis
- Cardiovascular causes - left ventricular failure

Other causes

- Irritants - foreign body, cigarette smoke, GERD
- Fear and anxiety - exacerbates cough

ASSESSMENT

- Determine the underlying cause of cough, effectiveness of treatment and impact on quality of life for the patient and their family ***(refer to the guideline - Symptom Assessment)***
- Assess cough
  - Productive cough, able to cough effectively
  - Productive cough, unable to cough effectively
  - Non-productive cough
- Investigation
  - Chest radiograph PA view
  - Sputum microbiology
  - Peak flow

MANAGEMENT

Recommendations

- The goal of care should first be to treat reversible causes (Table 1)
- Combination of management of reversible causes (including cancer) and symptom management should be the approach in management of all patients; but should be determined based on the individual's general condition and prognosis

Non-pharmacological measures

- General
  - Sitting upright
  - Counselling - acknowledge fear, anxiety and offer support
  - Advise to quit smoking
  - Improve ventilation
  - Acupressure
- Thick / viscous sputum
  - Steam inhalation
  - Nebulised saline
  - Chest physiotherapy
- Purulent sputum
  - Chest physiotherapy
  - Postural drainage (e.g. in bronchiectasis)
- Loose secretions but unable to cough
  - Positioning
  - Controlled breathing and cough technique such as huffing

Specific treatment

Table 1 Specific treatment of causes of cough	
Dry cough	
Aetiology	**Treatment**
ACE inhibitors	Stop the medication
Irritants	Remove the irritant
Pleural effusion	Pleural fluid drainage and pleurodesis
Pericardial effusion	Pericardiocentesis
Lymphangitis carcinomatosis	Corticosteroids
Intrinsic or extrinsic airway obstruction by tumour	Corticosteroids, palliative radiotherapy
SVC Obstruction	Stent, radiotherapy, chemotherapy, corticosteroids
Upper respiratory tract infection	Humidify room air, antibiotics
Bronchial Asthma, COPD	Bronchodilators - oral or inhalation therapy, corticosteroids
Pulmonary embolism	Low molecular weight heparin
Productive cough	
Aetiology	**Treatment**
COPD	Bronchodilators - oral or inhalation therapy, corticosteroids, antibiotics (if evidence of infection)
Bronchopneumonia, infection	Antibiotics
Post-nasal drip sinusitis	Antihistamines, nasal decongestant sprays - beclomethasone nasal spray, ipratropium nasal spray
Pulmonary aspiration	Anti-secretory agents, antibiotics
GERD	Proton pump Inhibitors, prokinetics
Left ventricular failure	Diuretics
Motor Neurone Disease-aspiration	Antisecretory agents (hyoscine / glycopyrrolate)

Pharmacological measures

Dry cough

- Demulcents (glycerol containing syrups)
- Anti-tussives remains the mainstay for suppression of cough (Table 2)

- Symptomatic treatment should start with anti-tussives such as Simple Linctus
- Codeine Linctus should be the next step followed by centrally acting opioids
- Low doses of morphine may provide good relief, but higher doses may not be helpful

Table 2 Antitussives	
Medication	**Dose**
Simple linctus	5mL q8h
Dextromethorphan	15-30mg PO q4h - q8h (120mg is maximum daily dose)
Codeine	20mg PO q6h
Morphine	Opioid naïve - 5mg (single dose trial; if effective, 5-10 mg slow release morphine q12th hourly)
	If on opioids - Continue with the existing normal-release breakthrough analgesic dose and titrate the regular and rescue doses as needed
Sodium Cromoglycate inhaler	10mg q6h / 20 mg q12h (inhaled)
Nebulised Lignocaine	5mL 2% (100mg) q4h *
Nebulised Bupivacaine	5mL 0.25% (12.5mg) q4h *
*Caution - Do not have hot/cold drinks or food within one hour of using these agents to avoid aspiration/injury as oro-pharynx may be very well anaesthetised or numb	

Productive Cough

- Goal is to improve the expectoration of sputum
- Mucolytic medications are used to reduce the viscosity of the sputum (Table 3)

Table 3 Expectorants	
Medication	**Dose**
Acetyl cysteine	600mg OD
Ambroxol	30mg q8h

Other medications worth considering

- Diazepam 5mg PO hsod (if anxiety/fear is exacerbating cough)
- Gabapentin 100 - 300mg PO q8h - refractory cough
- Benzonatate 100 - 200 mg PO q8h - refractory cough

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