Evidence-based practice of palliative care for patients with chronic chest diseases

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Integrated Medical Services
RTSKH
Chronic Chest Diseases

- Chronic Obstructive Pulmonary Disease (majority)
- Bronchiectasis, Pulmonary fibrosis...
### Palliative care for advanced TB

Clemens E. Palliative Care in the Developing World, IAPHC, 2004

TB is curable in the majority of cases.
Patient with incurable TB may present with many symptoms

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Recommendations</th>
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</table>
| Dyspnœa                  | An open window or **fan** stimulate the sensory nerves in the face and nasopharynx  
                            | **Opioids**  
                            | **Oxygen** may be helpful in patients with hypoxaemia                   |
| Fatigue & Cachexia       | **Psychostimulants** & **antidepressants**  
                            | Blood transfusion if anemia  
                            | Thalidomide  
                            | Food intake alone is unlikely to resolve severe weight loss               |
| Dry Cough & hemoptysis   | **Opioid** antitussives  
                            | Inhaled cromoglicate  
                            | Have red towels a/v & **dark sheets** and a basin to collect the blood  
                            | In case of massive bleeding or chocking, use short acting  
                            | **benzodiazepines**                                                    |
| Pain                     | **Opioids**, NSAIDs                                                           |
| Fever                    | Acetaminophen, NSAIDs                                                          |
| Night Sweats             | Acetaminophen, NSAIDs                                                          |
Burden of Advanced COPD

1990 to 2015 Worldwide

- Increased prevalence 44.2%
- Increased mortality 11.6%
- 3.2M COPD died 2015
- 4th leading cause of death (global)
- 6th leading cause of death (HK)
- Significant symptoms, impaired quality of life
Palliative Care

* World Health Organization definition of palliative care
  * focus on optimising quality of life for people with progressive life-limiting illness
  * through impeccable assessment of symptoms and other concerns throughout their illness
  * care of the dying and family support

* Not based on diagnosis or prognosis
* Based on Needs
Palliative care and chronic illness

* Individualized integrated model of palliative care
  * palliative care at the onset of symptoms from a progressive respiratory disease
  * concurrently with curative/restorative care in an individualized manner
  * periods of high intensity of curative/restorative care (e.g., hospitalizations for lower respiratory tract infections)
  * intensity of palliative care increases and decreases to reflect the needs and preferences of the patient and the patient’s family

Proposed model of ATS for respiratory diseases (2008)

* Supporting family throughout including bereavement
Palliative care for these patients is CHALLENGING

Progress, life-limiting disease
Worsening of dyspnoea

Deterioration in function & QOL
Similar/Worse than advanced cancer
(Gore 2000, Pang 2005)

Increasing dependency on caregivers

Repeated emergency admissions

Aggressive life-sustaining treatment
with assisted ventilation

Limited access to specialist PC service

Late address on advance care planning
Limited Access to Palliative Care

COPD patients had a much lower chance to receive palliative care service despite their needs

Chou WC et al 2013
A local Taiwan study: only 18% advanced COPD received palliative care
# Advanced COPD Symptom prevalence

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Janssen 2008</th>
<th>Ng 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyspnea</td>
<td>56-98%</td>
<td>87.5%</td>
</tr>
<tr>
<td>Tiredness</td>
<td>49-96%</td>
<td>76.8%</td>
</tr>
<tr>
<td>Dry Mouth</td>
<td>59-67%</td>
<td>73.2%</td>
</tr>
<tr>
<td>Cough</td>
<td>59-80%</td>
<td>60.7%</td>
</tr>
<tr>
<td>Insomnia</td>
<td>55-77%</td>
<td>53.6%</td>
</tr>
<tr>
<td>Pain</td>
<td>21-77%</td>
<td>50%</td>
</tr>
<tr>
<td>Urinary Disturbance</td>
<td>-</td>
<td>50%</td>
</tr>
<tr>
<td>Anorexia</td>
<td>11-81%</td>
<td>48.2%</td>
</tr>
<tr>
<td>Depression</td>
<td>17-77%</td>
<td>44.6%</td>
</tr>
<tr>
<td>Constipation</td>
<td>27-44%</td>
<td>42.9%</td>
</tr>
<tr>
<td>Anxiety</td>
<td>32-57%</td>
<td>37.5%</td>
</tr>
</tbody>
</table>
The Cycle of Physical, Social, and Psychological Consequences of COPD

- COPD
  - Dyspnoea
    - Immobility
      - Lack of Fitness
    - Depression
      - Social Isolation
Care for patients with advanced COPD

* requires a holistic approach to address their disease management
  * minimize their physical, psychosocial and spiritual distress
  * maximize their QOL via rehabilitation and palliation care for their dying journey

* palliation and care at the end-of-life an integral component of care
  * Strongly endorses the concept that palliative care should be available to patients at all stages of illness and should be individualized based on the needs and preferences of the patient and the patient’s family (ATS Clinical Policy Statement, AJRCCM 2008)

* Palliative approaches are effective in controlling symptoms in advanced COPD (GOLD guideline, 2017)
Managing dyspnea in patients with advanced COPD (Canadian Thoracic Society Guideline)

Marciniuk DD et al Can Respir J 2011

Initial & Optimize Opioid Therapies: Short- and Long-Acting Agents

Initial & Optimize Non-Pharmacologic Therapies: Exercise, Pursed-Lip Breathing, Walking Aids, Chest Wall Vibration, NMES

Initial & Optimize Pharmacologic Therapies: SABD, LAAC, ICS/LABA, PDE4 Inhibitors, Theophylline, O2 in Hypoxemic Patients
Triple approach on dyspnea in advanced COPD

Mularski and Rocker 2015

Marciniuk DD et al Can Respir J 2011

1. aggressive, appropriate pharmacologic therapies for disease management

2. non-pharmacological therapies including pulmonary rehabilitation & breathing/relaxation techniques

3. Opioids recommended as necessary adjunctive therapy

Initial & Optimize Opioid Therapies: Short- and Long-Acting Agents

Initial & Optimize Non-Pharmacologic Therapies:
Exercise, Pursed-Lip Breathing, Walking Aids, Chest Wall Vibration, NMES

Initial & Optimize Pharmacologic Therapies:
SABD, LAAC, ICS/LABA, PDE4 Inhibitors, Theophylline, O2 in Hypoxemic Patients
Refined ABCD assessment tool (GOLD guideline 2017)

- Spirometrically confirmed diagnosis
- Assessment of airflow limitation
- Assessment of symptoms/risk of exacerbations
  - Classification into subgroup A, B, C, D
  - Subgroup D most symptomatic and with more hospital admissions – combination use of LABA/LAMA/ICS +/- roflumilast and macrolides
Non-pharmacological managements on dyspnoea

High strength evidence
- chest wall vibration; neuroelectrical muscle stimulation

Moderate strength evidence
- walking aids; breathing training

Cochrane review 2011
(Bausewein C et al)

Breathlessness Support Service (Higginson, 2014)

Results
N=105
83 (78%) completed assessment at week 6
Improved in breathlessness mastery
Better Survival at 6 months
Significant survival differences for COPD & ILD (not cancer)

RCT on effectiveness of early palliative care integrated with respiratory service
Patients with advanced disease & refractory breathlessness
Symptom-based approach to cancer & non-cancer patients
Multi-disciplines (Respiratory, PC, PT, OT, MSW)
Clinic ("one point of access") and home visit

Breathlessness pack
Non-pharmacological managing on dyspnoea

RCT on effectiveness breathlessness management in advanced non-malignant conditions
Multi-disciplinary (Respiratory, PC, PT, OT, Psychologist)
Evidence-based interventions (reported previously for cancer patients)
Prioritize ‘Breathing, Thinking, Functioning’ drivers to breathlessness

Results
N=87
79 (91%) completed key outcome measurement
Positive impact on patients and carers
Reduction in distress due to breathlessness [-0.24 (95% CI: -1.30, 0.82)]
50 participants, randomized to use handheld fan for 5 mins
- Directed to face or leg first → crossed over to other treatment
- Result: Significant difference in the VAS scores
  - ↓ in breathlessness when fan directed to face (P=0.003)

Acceptable to participants
- Inexpensive
- Portable
- Enhances self-efficacy
- Available internationally

Might be tried especially in relatively immobilized patients

Galbraith S et al. J Pain Symptom Manage. 2010
Ekström MP et al. BMJ. 2015
Use of supplemental oxygen

Well-documented usefulness for **hypoxaemic patients**
(MRC trial; NOTT trial)

No additional symptomatic benefit over room air for relieving refractory dyspnoea in **non-hypoxaemic patients**
(Abernethy AP et al. Lancet. 2010)

Routine application to patients **near death** is not supported; should be withdrawn if no report symptom relief within few days
(Campbell ML et al. J Pain Symptom Manage. 2013)
oxygen vs room air for relieving refractory dyspnea in non-hypoxaemic patients

239 patients
- COPD 64%; Restrictive lung disease 6%; Bronchiectasis 3%

No significant difference between oxygen & room air in
- Change in morning dyspnea
- Change in evening dyspnea
- Change in global QOL
Use of Opioids
Barriers to its use in advanced COPD

Rocker G et al Thorax 2009

Professional barriers
* sedation
  * uncommon if opioids are introduced at low regular doses and titrated carefully over days or weeks
* respiratory depression
  * not reported in the clinical literature where low-dose regular oral opioids are titrated to effect
* lack of knowledge and experience regarding opioid prescription

Patient and family barriers
* Fears of using or of implications of using a narcotic or a controlled substance
Use of Opioids

- Pharmacological treatment of using opioids on dyspnea was recently reviewed (Ekstrom M et al Annals ATS 2015; Cochrane 2016)
  - Opioids reduced breathlessness in COPD with the strongest evidence for systemic therapy
  - No effects on exercise capacity
  - No serious adverse effects (hospitalizations, respiratory depression, or CO2 retention) reported

- Possible mechanisms
  - Effect seems to be mediated mainly by central reduction of ventilator demand and altered perception of breathlessness
Effects of opioids on dyspnea

* Meta-analysis showing strongest evidence favouring opioids over placebo for systemic therapy
* Nebulized opioids
  * No evidence in most studies
  * Pooled effect driven by an outlier study by Shohrati

Ekstrom M et al Annals ATS 2015
Use of Opioids

- Regular, low dose, oral morphine (up to 30mg/day) should be considered for dyspnea in severe COPD persists despite best medical management
- Consistent with international guidelines
  - NICE guideline, Canadian Thoracic Society, Global Initiative for COPD
- Initiated at a low dose regularly, titrated upward over days and weeks, balancing beneficial & adverse effects
- Adequate FU and reassessment
Role of benzodiazepines on dyspnoea

- Analysis of all studies did not show a beneficial effect of benzodiazepines for the relief of breathlessness in people with advanced cancer and COPD compared to placebo, midazolam, morphine, or promethazine
  - 8 studies, 214 participants
- No statistically significant differences regarding type of benzodiazepine, dose, route and frequency of delivery, duration of treatment, or type of control
- No evidence for or against benzodiazepines but can cause drowsiness
- Benzodiazepines may be considered as a second- or third-line treatment, when opioids and non-pharmacological measures have failed to control breathlessness

Simon ST et al Cochrane Database 2016
Depression

* Reported 7-77% prevalence
* Meta-analysis evaluating effects of complex interventions on self-reported depression symptoms
  * Cognitive Behavioural Therapy
  * Self-Management Education
  * Multi-component exercise training
  * Relaxation
* Multi-component exercise training is the only intervention subgroup associated with significant treatment effect
* Complex psychological and/or lifestyle interventions that include an exercise component significantly improve symptoms of depression in people with COPD
Advance Care Planning (ACP)

* An important integral component of care for patient with advanced COPD
  * Addressing patient’s preferences on future life-sustaining treatments (e.g. DNACPR, Intubation, Non-invasive ventilation)
  * Taking into consideration of patients’ benefit and burden
  * Relevance in care at end-of-life and care of dying

* A recent RCT showed that a nurse-led, facilitated ACP has increased the uptake of ACP (Sinclair, 2017)
Fear about what the end of life will be like is often present, but rarely discussed

- Late ACP discussion for COPD patients
- > 25% patients had their 1st documented discussion within 3 days before death
Advance care planning uptake among patients with severe lung disease

Sinclair C et al BMJ Open 2017

* A multicentre RCT
* 149 participants
  * CA lung, COPD or ILD
* ACP discussion (Nurse facilitators)
  * prompted further discussions (doctors; loved ones)
  * substitute medical decision-maker (SDM)
  * advance directive (AD)

* Participants
  * discuss illness & prognosis
  * goals / values (future medical care)
  * Communicated with loved ones & doctors
Advance care planning uptake among patients with severe lung disease

Results at 6 months

- formal ACP uptake was higher (p<0.001)
  - intervention arm (51%) vs usual care (14%)
- ACP discussions with doctors were higher (p<0.005)
  - intervention arm (72%) vs usual care (47%)
- Increased symptom burden and preference for the intervention predicted later ACP uptake

Social support

- positively associated with ACP discussion with loved ones
- negatively associated with discussion with doctors

Sinclair C et al BMJ Open 2017
Role of Non-invasive ventilation (NIV) in palliative setting
Non-invasive Ventilation

- May be useful even in Palliative Setting with good survival
- Consider benefit and burden of treatment
  * Symptom improvement vs Ventilation Discomfort
- Importance of advance care planning with close & effective communication between caregivers, patient & family on the goals of treatment

Garpestad E et al Chest 2007
Curtis JR et al CCM 2007
NIV in DNI patients
Long term survival

- 55% in 6 months; 30% in 1 yr
  - Chu et al CCM 2004 (37 COPD pts)

- 15% in 6 months
  - Fernandez et al Intens Care Med 2007 (36 pts)

- 16% in 6 months; 16% in 1 yr; 11% in 5 yrs
  - Bulow et al Acta Anesth Scand 2009 (38 pts)
The importance of collaboration between palliative and respiratory medicine recognised in international guidance

- Dept of Health Western Australia COPD Model of Care (2012)
- Towards Integration of palliative care in patients with CHF & COPD. Systemic literature review of European guidelines and pathways. (Siouta N et al BMC Palliat Care 2016)
<table>
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<th>Management of refractory dyspnoea</th>
<th>Triple approach; Disease Mx; Non-pharmacologic Therapy; Use of Opioids</th>
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<tr>
<td>Non-pharmacologic Management</td>
<td>Multi-disciplinary symptom-based approach is effective (BSS; BIS)</td>
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<tr>
<td>Supplemental oxygen</td>
<td>Useful for hypoxaemic patients; No additional benefit for non-hypoxaemic patients; Routine use near death not supported</td>
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<tr>
<td>Use of Opioids</td>
<td>Reduced breathlessness with strongest evidence in systemic therapy; Regular, low dose morphine (≤ 30mg/day) is safe</td>
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<tr>
<td>Use of benzodiazepine</td>
<td>No documented beneficial effect for dyspnoea; May be considered as 2nd or 3rd line treatment</td>
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<tr>
<td>Complex interventions on depressive symptom</td>
<td>Psychological/lifestyle interventions that include exercise component improve symptom</td>
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<td>Advance Care Planning</td>
<td>Nurse-led facilitated discussion increased ACP uptake</td>
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<td>May be useful in PC setting; Setting goals with balancing benefit &amp; burden of treatment</td>
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THANK YOU