Long-term oxygen therapy for patients with chronic obstructive pulmonary disease (COPD): an evidence-based analysis

COPD Working Group

Record Status
This is a bibliographic record of a published health technology assessment from a member of INAHTA. No evaluation of the quality of this assessment has been made for the HTA database.

Citation

Authors' objectives
The objective of this health technology assessment was to determine the effectiveness, cost-effectiveness, and safety of long-term oxygen therapy (LTOT) for chronic obstructive pulmonary disease (COPD).

Authors' conclusions
- Based on low quality of evidence, LTOT (~ 15 hours/day) decreases all-cause mortality in patients with COPD who have severe hypoxemia (PaO2 ~ 50 mm Hg) and heart failure. - The effect for all-cause mortality had borderline statistical significance when the control group was no LTOT: one study. - Based on low quality of evidence, there is no beneficial effect of LTOT on all-cause mortality at 3 and 7 years in patients with COPD who have mild-to-moderate hypoxemia (PaO2 ~ 59–65 mm Hg).1 - Based on very low quality of evidence, there is some suggestion that LTOT may have a beneficial effect over time on FEV1 and PaCO2 in patients with COPD who have severe hypoxemia and heart failure: improved methods are needed. - Based on very low quality of evidence, there is no beneficial effect of LTOT on lung function or exercise factors in patients with COPD who have mild-to-moderate hypoxemia, whether survivors or nonsurvivors are assessed. - Based on low to very low quality of evidence, LTOT does not prevent readmissions in patient with COPD who have severe hypoxemia. Limited data suggest LTOT increases the risk of hospitalizations. - Limited work has been performed evaluating the safety of LTOT by severity of hypoxemia. - Based on low to very low quality of evidence, LTOT may have a beneficial effect over time on health-related quality of life in patients with COPD who have severe hypoxemia. Limited work using disease-specific instruments has been performed. - Ethical constraints of not providing LTOT to eligible patients with COPD prohibit future studies from examining LTOT outcomes in an ideal way.

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