The effects of morphine on dyspnea and ventilatory function in elderly patients with advanced cancer: A randomized double-blind controlled trial.

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Abstract:

Background: Dyspnea represents a very frequent and distressing symptom in patients with advanced cancer. This study was undertaken to assess the efficacy of morphine on dyspnea and its safety for ventilatory function in elderly advanced cancer patients.
Patients and methods: Nine elderly patients with dyspnea due to lung involvement were randomized to receive either morphine subcutaneously (5 mg in seven opioid-naïve patients and 3.75 mg in two patients on top of their regular oral dose of 7.5 mg q4h) or placebo on Day 1. On Day 2, they were crossed over to receive the alternate treatment. Dyspnea was assessed every fifteen minutes using a visual analogue scale. (VAS: 0-100 mm) and the ordinal scale developed by Borg (0-10 points). Pain, somnolence and anxiety were assessed using VAS. Respiratory effort, respiratory rate and oxygen saturation were also measured repeatly
Results: Mean changes in dyspnea 45 minutes after injection were -25 ± 10 mm and -1.2 ± 1.2 points for morphine, versus 0.6 ± 7.7 mm ($P < 0.01$) and -0.1 ± 0.3 ($P = 0.03$) for placebo on VAS and Borg scale, respectively. No relevant changes were observed in somnolence, pain, anxiety, respiratory effort and rate, and oxygen saturation.
Conclusions: Morphine appears effective for cancer dyspnea, and it does not compromise respiratory function at the dose level used.

Comments:

Strengths/uniqueness: Completion of a randomized controlled trial (RCT) in palliative care patients is sufficiently uncommon to be noteworthy. The study design is clear and replicates to a significant extent the only previously published RCT of subcutaneous morphine for dyspnea.

Weakness: The study sample is small with only nine patients. Although the improvement in dyspnea as measured by the numerical visual analogue and Borg scales is statistically significant, the results would have been enhanced by asking patients to choose which treatment arm they preferred. This would confirm the clinical significance of the findings.

Relevance to Palliative Care: The confirmation of positive findings for benefit from subcutaneous morphine on dyspnea in this study is especially relevant given the lack of benefit in RCTs of nebulized morphine. As the authors note, clinicians still using benzodiazepines for dyspnea may wish to reconsider.