

# BiPAP No Better than High-Flow Oxygen Mask for CHF?

Intubation and mechanical ventilation are standard treatments for respiratory failure, but they are not without risk. This author assessed whether a bi-level positive airway pressure device (BiPAP) reduces the intubation rate and improves cardiopulmonary parameters in patients presenting to the emergency department with severe congestive heart failure (CHF). The study was terminated prematurely when a paper was published indicating that BiPAP use portends a greater risk of acute myocardial infarction than does intubation.

A convenience sample of 38 patients was randomized to receive treatment using either a BiPAP (21 patients) or high-flow oxygen by mask (MASK group; 17 patients). Intubation and other treatments were administered at the discretion of the senior treating physician. Four patients who did not tolerate the BiPAP and were switched to MASK were analyzed in the BiPAP group. There were no significant differences between groups in age, gender, types of medications administered, or physiologic parameters. Five patients (23.8%) in the BiPAP group and 7 (41.2%) in the MASK group were intubated, all within 2 hours of enrollment. Acute MI occurred within the first 24 hours of hospitalization in 4 patients (19.0%) in the BiPAP group versus 5 (29.4%) in the MASK group. Three patients in each group died. None of these differences were statistically significant.

**Comment:** This study is limited by a lack of standardized treatment for the 2 groups, enrollment of nonconsecutive patients, and inadequate power to detect a difference. Nevertheless, it calls into question prior research that showed an increased incidence of acute MI with BiPAP and supports the need for a larger clinical trial.

— *Kristi L. Koenig, MD, FACEP*

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Levitt MA. *A prospective, randomized trial of BiPAP in severe acute congestive heart failure. J Emerg Med* 2001 Nov; 21:363-9.