

and nursing care the patients received as study participants. Further, mean pulmonary artery pressure did not change significantly, falling from 28.0 mm Hg to 26.4 mm Hg in 6 months, and exercise tolerance as tested by maximum work achieved on a bicycle ergometer did not improve, findings that differ from those of others. The reasons are not clear for the relatively small impact of oxygen therapy on the physiological and neuropsychological functions that we measured. Our study had many more patients than did previous ones and may have contained subgroups that showed greater benefits, but the nature of our mean results indicates that were there such subgroups, there must have been others showing nearly equal deterioration. As has been discussed above, there is no reason to believe that our patient sample was biased so as to minimize the effects of oxygen therapy. A more likely cause for the relatively small oxygen effect observed is that our protocol required a 3-week observation period before baseline studies and entrance into the study. During this period, arterial blood gas levels in many patients improved to the point that the patient was no longer eligible for the study. Most previous studies have been less meticulous in assuring patient stability, raising the question that some of their subjects were unstable on entry and therefore likely to improve whether given oxygen or not.

In this trial, mortality was lower in continuous O₂ therapy patients than in nocturnal O₂ therapy patients, particularly in those with more severe derangements of lung and brain function and high levels of mood disturbance. We believe such patients should be treated with continuous O₂. This does not necessarily mean that there is no place for nocturnal O₂ therapy in the treatment of hypoxic chronic obstructive lung disease. Indeed, the current British trial that compares supplemental O₂ with no supplemental O₂ involves 15 hours of O₂ administration a day. This regimen is closer to our nocturnal O₂ regimen than to continuous O₂ therapy and is reported to be associated with a lower mortality than that experienced by patients receiving no outpatient oxygen (7). Thus it appears that some oxygen is better than none and that continuous oxygen is better than nocturnal, at least in severely ill patients.

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