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Title: A ten-year survey of long term oxygen treatment (LTOT) in severe COPD: Comparing the survival during telemetric home monitoring vs standard care

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Body: Subjects' survival, is a crucial outcome during long-term oxygen treatment (LTOT). Methods: the survival of a cohort of 886 patients suffering from very severe chronic obstructive respiratory disease (COPD) and admitted to long-term oxygen treatment (LTOT) at home was investigated over the last ten years. Subjects were divided in two groups well matched for age, sex, lung function and daily oxygen use: group A, patients managed according to an usual protocol for home assistance, and group B, patients admitted to a telemetric daily monitoring. Statistics: Wilcoxon's test was used in order to compare the survival and acute episodes of relapse, and $p < 0.05$ was accepted. Results: mean survival had a significantly longer duration (2.5 fold) in subjects telemetrically controlled at home (1239.6 days \pm 382.1 vs sd 482.6 days \pm 273.9 sd, $p < 0.01$). Moreover, episodes of heart failure and of lower airway infections had a lower incidence in these subjects (17.3 vs 33.0%, and 11.3 vs 21.1% respectively, both $p < 0.01$). When standardization for age, lung function, smoking habit, and comorbidities, females still showed a significantly longer survival when managed according to the telemetric protocol of home LTOT (1166.4 days \pm 556 sd vs 1433.7 days \pm 656.3 sd, $p < 0.01$). Conclusions: the telemetric management of home LTOT proves more effective than standard care in terms of patients' overall survival. Even if further studies are needed, a different females' psychological approach to this particular model of management and their better acceptance of procedures might presumably contribute to explain the difference observed in the main outcome.