REFERENCES
17 Hudson LD. New therapies for ARDS. Chest 1995; 108(suppl):798-91S

Observance of Long-term Oxygen Therapy at Home

Long-term oxygen therapy (LTOT) is the only treatment which has been shown to improve survival in patients with advanced COPD.1,2 It has also been shown that the longer the daily duration of LTOT, the better the survival.1 Furthermore, LTOT reduces polycythemia1 and has favorable effects on pulmonary hemodynamics since it stabilizes and sometimes reverses the progression of pulmonary hypertension.3,4 LTOT improves the exercise tolerance of COPD patients5,6 and their neuropsychological status7,8 and, accordingly, their quality of life.9 Consequently, there has been a considerable development of LTOT in recent years, which is also accounted for by the technological improvements in the way of supplying oxygen at home. It is estimated that some 800,000 people currently receive home oxygen therapy in the United States.10

One of the major problems with oxygen therapy is the observance of the treatment by the patients. LTOT is undoubtedly a constraining therapy, and this probably explains why the compliance to treatment is often poor. There have been several previous reports on the compliance with LTOT,11-14 but small numbers of patients were generally included. In 1992, Howard et al15 reported the oxygen usage of 531 oxygen concentrators installed in the UK in 1986, and observed that in the category of patients to whom LTOT was prescribed for 15 or more hours per day (n=339), the actual usage of oxygen concentrators (13.4 h as a mean) was markedly lower than the prescribed usage (17.9 h). They concluded that “compliance with therapy is below the level at which clinical benefit is to be expected in at least 50% of treated patients.”15

In this issue of CHEST (see page 1144), Pepin et al report the French experience of compliance with LTOT. They assessed the daily use of oxygen therapy in 930 COPD patients and examined factors associated with effective use of LTOT. This prospective study, which has included a very large number of patients, was performed under the auspices of ANTADIR, a national non-profit organization which supplies oxygen and technical follow-up to near 30,000 patients with respiratory insufficiency in France. Actually, 14 regional associations of the ANTADIR network participated in this multicentric study.

Pepin et al have observed that only 45% of the patients achieved oxygen therapy for 15 h or more per day, but the mean duration of oxygen prescribed was only of 16±3 h per day with a mean duration of effective oxygen therapy of 14.5±5 h per day. The factors distinguishing patients who used oxygen for 15 or more hours per day included in particular an initial prescription of more than 15 hours per day and a supplementary education on LTOT given by a nurse or a physician. Pepin et al judiciously conclude that the education also needs to be focused on the physician, who is the prescriber.

The observations made by Pepin et al and those taken from other recent studies of the literature16,17 suggest that efforts for improving the observance of LTOT should be focused on three major targets: first, a better education of the prescribing physicians; sec-
ond, a better education of the patients; and third, trying to improve the quality of life under LTOT.

The prescribing physicians must be knowledgeable about the minimal daily duration of an efficient LTOT which is probably 18 h or more per day rather than 16 h per day. They should be convinced that the longer the daily duration of LTOT is, the better the results (improved survival, improved pulmonary hemodynamics, etc.). They must be aware that stopping oxygen for not more than 3 to 6 h may have deleterious effects.\footnote{18}

The education of patients must not be limited to home education given by a nurse or a physiotherapist, even if this kind of education is of great importance. Physicians should also be involved in the education of patients. A recent Swiss study\footnote{17} has demonstrated that the observance of LTOT can be improved by an education program given both by physicians and physiotherapists during short (48-h) hospital stays.

Finally, it is obvious that LTOT is a constraining therapy that may deteriorate the quality of life of some patients. Accordingly, all efforts must be made to supply possibilities of ambulatory oxygen to those patients who remain active. Liquid oxygen may represent the best solution. The multicentric study of Vergeret et al\footnote{16} that included 169 patients, clearly showed that those patients who used portable oxygen had a significantly longer daily duration of oxygen therapy and this was particularly true when the patients used liquid oxygen.

Emmanuel Weitzenblum, MD
Strasbourg, France

Service de Pneumologie, Hôpitaux Universitaires de Strasbourg, Strasbourg, France.

REFERENCES


A Perspective on Radiation Therapy for Lung Allograft Rejection

I have read with interest the article by Valentine and colleagues in this issue of CHEST (see page 1184) on the use of total lymphoid irradiation (TLI) for acute rejection in lung transplant recipients. While the experience cited is somewhat limited, it certainly is a tantalizing effort to find another mode of therapy to prolong graft and patient survival in those patients who have undergone lung transplantation.

During the past decade, lung transplantation has come of age with a great proliferation of centers around the world and generally acceptable survival statistics. Careful early work by dedicated clinician-scientists has led to markedly improved operative survival, avoidance of early postoperative surgical complications, and better graft function in the early postsurgical period. Further experience and refinement of immunosuppressive protocols has led to a number of different approaches to the immunologic management of these patients in the postoperative period, but the variety of