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Scientific letter

High Follow-up Rate in Smokers With Diffuse Interstitial Lung Diseases: A Magnificent Opportunity for Tobacco Cessation Treatment?

Alta tasa de seguimiento en fumadores con enfermedades pulmonares intersticiales difusas: ¿una magnífica oportunidad para el tratamiento del tabaquismo?

Dear Editor,

Smoking addiction is a chronic disease that begins at an early age,[1] affecting multiple organs and systems, with COPD and lung cancer being the most frequent lung diseases.[2] Smoking is a risk factor for different diffuse interstitial lung diseases (ILDs), such as respiratory bronchiolitis associated with diffuse interstitial lung disease (BR-ILD), desquamative interstitial pneumonia (DIP), idiopathic pulmonary fibrosis (IPF), Langerhans cell histiocytosis (LCH), combined pulmonary fibrosis with emphysema (CEPF), and smoking-related pulmonary fibrosis (SRIF).[3]

The impact of a smoking cessation programme on ILD and its influence on the prognosis of the disease is unknown.[4] There are no specific treatment recommendations for smoking cessation in ILD guidelines. According to data from our unit, approximately 10% of the patients diagnosed with ILD are active smokers.[5] We aimed to describe the impact of a smoking cessation programme in patients with ILD, measuring abstinence and adherence at 6 months.

We retrospectively analyzed 142 smokers in our high-complexity tobacco addiction unit between June 2018 and February 2021. Of these patients, 15 (10.56%) were diagnosed with ILD. Exhaled CO (Smokerlyzer Pico TM, Bedfont Scientific Ltd) was recorded at the first visit and then at 3 and 6 months after the quit day. Ethical Committee endorsed this study (HCB/2021/0583). Data were stored in our hospital's server in anonymized spreadsheets.

We excluded patients who refused smoking therapy, had cognitive impairment, severe symptoms related to ILD, or a short life expectancy. Of the 15 patients included, 8 were women (53%) and 7 were men (47%) with an age of 61 (±10) years, started smoking at 19 (±8) years, consumed 20 (±12) cigarettes per day, had a cumulative dose of 34 (±21) pack-years. They tried 1.6 (±1.7) times to quit smoking, maintaining a maximum abstinence period of 14 (±24) months before the initial visit to our unit. In addition to ILDs, we found one or more comorbidities in 13 (87%) patients, see Table 1. Observed ILDs and their frequencies are in Table 1.

We obtained the following results from the questionnaires administered at the first visit: Fagerström 5 (±2) (moderate) and Glover-Nilsson 19 (±3) (moderate). Exhaled carbon monoxide was 20 (±9) parts per million (3.20% COHb) at the first visit to the smoking clinic.

Table 1
Demographic, comorbidities, diagnoses and smoking characteristics of the study group (*other than ILD).

Variable	Patients *n* = 15 (%)
Smokers/ILD	142/15 (1056)
Gender (male/female)	7/8 (47/53)
Age	61 (±10)
Age at initiation	19 (±8)
Cigarettes per day	20 (±12)
Pack-years	34 (±21)
Quit attempts	1.6 (±1.7)
Previous abstinence (months)	14 (±24)
Fagerström	5 (±2)
Glover-Nilsson	19 (±3)
Exhaled carbon monoxide	20 (±9)
Actual abstinence rate at 3 months (%)	53
Actual abstinence rate at 6 months (%)	27
Follow-up rate at 6 months (%)	87
Comorbidity, n (%)	
Any (*)	13 (87)
COPD	6 (40)
Cardiac	6 (40)
Psychiatric	2 (13)
Cancer	1 (7)
Other addictions	1 (7)
Diagnosis, n (%)	
SRLID	8 (53)
Sarcoidosis	2 (13)
IPF	2 (13)
NSIP	1 (7)
Sjogren	1 (7)
COP	1 (7)

Abbreviations: ILD: interstitial lung disease; Max. Abst.: maximum abstinence; COPD: chronic obstructive pulmonary disease; SRILD: smoking-related ILD; IPF: idiopathic pulmonary fibrosis; NSIP: nonspecific interstitial pneumonia; COP: cryptogenic organizing pneumonia.

The most frequently used therapeutic drug was varenicline in 8 patients (53%), nicotine replacement therapy (NRT) in 6 patients (40%). Two patients (13%) had no treatment, and one (7%) received a combination of varenicline and NRT.

The abstinence rate was 53% at three months and 27% at 6 months. Two main causes of relapse were identified by the patients: stress (47%) and social relationships with other smokers (20%). The follow-up rate was 87% at 6 months.

Historically, smoking cessation therapy has been administered to all smokers regardless of their comorbidities. Scientific societies have made strong recommendations for smoking cessation in patients with ILD. Improvements were seen in various outcomes, after smoking cessation, supporting the role of tobacco in the pathogenesis of some ILD.[6] Successful ILD treatment could be significantly compromised by tobacco use, similar to what happens in COPD or lung cancer.[7] Also there is moderate evidence of the

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negative impact of smoking on the ILD progression. An increase in the mortality of smoking ILD patients has been reported, although the level of evidence was low.[8] Recently, more intensive smoking cessation therapy has been proposed for a subgroup of smokers, such as COPD patients, due to the higher levels of consumption and dependence observed in this population.[8,9] COPD treatment guidelines emphasize smoking cessation given that up to 40% of COPD patients continue to smoke.[10]

A survey of 49 patients with ILD found that 7 (14%) self-reported as active smokers. However, 15 patients (30.6%) had CO levels usually found in smokers.[11] Cotinine, due to its longer half-life, could be more useful than CO measurement to observe this discrepancy.

Smokers with ILD represent a special population with high smoking levels, dependence and difficulty in quitting. For those who quit smoking on their own, relapsing rates are very high, with up to 51% after 1 week, 80% in 1 month. Finally, only 3–5% remained abstinent in the 6th month.[12,13] Patients in this study had difficulties maintaining abstinence.

When patients receive a serious illness diagnosis, such as lung cancer or ILD, they may be more receptive to the specialist's recommendation. It is a very special life situation, known as a "teachable moment" that could be a good opportunity to quit.[7,14] To take advantage of this moment psychological intervention should be intensified. Strategies such as increasing motivation, reinforcing motivational interviews, increasing the frequency and duration of smoking cessation encounters, or associating an individualized and group formats intervention can be helpful. The high follow-up rate observed at six months will allow us to try new strategies and opportunities to quit smoking.

The study has some limitations: the limited number of smoking ILD patients and the lack of records of self-efficacy, anxiety levels, or depression, could affect the generalizability and statistical power of the findings. Other studies have reported that anxiety and depressive mood are more frequent among ILD patients.[15] It is very likely that the willingness to quit smoking is influenced by the heterogeneity of ILD and the expectations of patients. This can also undermine self-efficacy to quit. These differences will only be observable if there is a representative number of patients in each cluster. New studies are necessary with a larger number of patients to help us better understand the characteristics of them. We propose to take measures to boost the detection of smokers of ILD, testing for cotinine and CO, even when patients claim not to smoke.

We believe that within highly specialized smoking cessation units, it is possible to improve abstinence rates for patients facing multiple comorbidities or severe conditions such as ILD. It can be assumed that in a non-negligible percentage of patients with ILD who smoke, it is necessary to significantly impact their addiction by combining drugs and increasing the dose or duration of pharmacological therapy.

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Authors' contributions

AFG, NA: database load, statistical analysis, first draft of the manuscript, first English translation; XAR: statistical analysis, first draft of the manuscript; JF, SC, NPR, MBNS, ECC, JARM: database load, commented on previous versions of the manuscript; JS, FHG: database load, commented on previous versions of the manuscript, translation contribution. All authors have read and agreed to the published version of the manuscript.

Conflicts of interest

Alejandro Frino-García reports speaker and support for attending meetings from Aflofarm, outside de submitted work. Nancy Perez-Rodas reports support for attending meetings from Boehringer Ingelheim and Chiesi, outside the submitted work. Belén Noboa-Sevilla reports support for attending meetings from Boehringer Ingelheim and Chiesi, outside the submitted work. Fernanda Hernandez-Gonzalez reports speaker and support for attending meetings from Boehringer Ingelheim, Roche, Gebro, outside the submitted work. Jacobo Sellarés reports speaker and consultancy fees from Boehringer Ingelheim, Roche, Gebro, Astra, Chiesi, outside the submitted work. The other authors declare to have no conflict of interest directly or indirectly related to the contents of the manuscript.

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