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Special Article - COPD

Early Diagnosis of COPD in a Smoking Cessation Unit

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Abstract

COPD is a preventable disease caused mainly by cigarette smoke. There is still an important number of smokers with airflow limitation who have never been diagnosed. Smoking cessation units are a good place to make the diagnosis of COPD, which at the same time could help to improve abstinence rates. We found a number of patients attending our clinic to quit smoking who fulfil criteria for a new diagnosis of COPD.

Keywords: COPD; Smoking cessation; Spirometry

Abbreviations

COPD: Chronic Obstructive Pulmonary Disease; GOLD: Global initiative for chronic Obstructive Lung Disease

Introduction

Undiagnosed COPD is still a problem that has not changed too much during the last years [1,2]. GOLD strategy [3] recommends performing a spirometry to every smoker 40 years old or older. Smoking cessation is the most effective way to stop the decline of lung function in COPD. Smoking cessation units are a good place to make an early diagnosis of patients who fulfill the spirometric criteria for COPD.

Material and Methods

We made a retrospective study with the review of the reports of patients attending our smoking cessation unit along 8 years. In every patient we obtained a thorough history and examined their motivation and physical dependence through the well-known questionnaires Richmond and Fagerström tests respectively. Every patient performed a forced spirometry (Jaeger MS Body/diff Master Screen; Jaeger, Hoechberg, Germany) following the recommendations set forth by different authors, in order to confirm that pulmonary function was normal. We also performed pulmonary function tests after bronchodilatation with salbutamol to exclude reversibility, according to previously established criteria [4].

A follow up for support and to evaluate abstinence through the first 6 months was made and suggestions for pharmacological treatment were made following the recommendations given by our National Society (SEPAR) [5].

We made the diagnosis of COPD as it is published elsewhere [6].

The results of the study were analyzed with SPSS 18.0 for Windows Statistical Analysis Package (SPSS Inc., Chicago, IL, USA). After verifying normality of the distribution with Kolmogorov–Smirnov test, descriptive statistics included mean (standard deviation) for parametric quantitative variables or median (range) for nonparametric ones. Qualitative variables were described with absolute numbers and percentages. No comparison between the groups was made.

Results

We reviewed 657 reports of patients sent mainly by our own colleagues of general chest medicine (34.7%) and from a special program for workers of our hospital (27.9%).53.3% of them were female, with a mean age of 48.22 years old and smoked 25.90 cigarettes/day (43.24 pack-years).The age when tobacco first began was 16.92 years old. Our patients had a moderate physical dependence (Fagerström test 5.76) and a moderate motivation of 8.08 (Richmond test). We found 18 patients (2.74%) with no previous respiratory diagnosis whose spirometry showed parameters of COPD [5] (FEV_1 63.05%; FEV_1/FVC 60.98). These "unknown" COPD patients were 72.1% males, 53.1 years old, smoking 33.29 cigarettes/day, starting consumption at 16.79 (67.78 pack-years); mean Fagerström test 6.26 and Richmond test 7.82. Abstinence at 6 months for the overall of our patients was 64.9%, being 77.8% for the group of new diagnosed COPD.

These results are summarized in table 1.

Discussion

Despite the efforts made to reduce the number of undiagnosed

Table 1: Demographic features of the overall patients and the group of new COPD. In parentheses is shown the Standard Deviation (SD).

	TOTAL	New COPD
N	657	18
Gender (female %, number)	53.3% (350)	27.9(5)
Age (years)	48.22 (11.17)	53.1 (10.89)
Age at start smoking (years)	16.92 (5.64)	16.79 (5.78)
Cigarettes/day	25.90 (12.48)	33.29 (12.36)
Pack-years	43.24 (29.35)	67.78 (35.19)
Richmond Test	8.08 (1.56)	7.82 (1.83)
Fagerström Test	5.76 (2.25)	6.26 (2.87)
FVC (ml)	3479,34 (976.19)	3447,22 (1043.97)
FVC (%)	84,43 (17.46)	77,03 (15.80)
FEV1 (ml)	2688,07 (872.78)	2120 (732.24)
FEV1 (%)	85,07 (21.43)	63,05 (16.30)
FEV1/FVC	76,67 (10.41)	60,98 (7.18)
Abstinencerate 6 months (%)	64.9	77.8

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COPD the percentages show a stable rate along the years. Performing spirometries to every patient attending a smoking cessation unit is a way to improve the diagnosis of COPD. We could found a small number of patients who have never been diagnosed of any lung disease and who have spirometric parameters of COPD. Although the number of these new COPD patients was small, we think any way to detect this disease at early stages is important.

Furthermore, giving the information of this new disease at the moment of the attempt of quitting smoking could help to reach the success as the patient could be more sensitive to the message. In our experience we could show that there is a higher abstinence rate in the group of new COPD diagnosis (even though the group size was very different).

Conclusion

We conclude that spirometry should be performed routinely to all patients attending a smoking cessation clinic, since a number of new COPD could be diagnosed.

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