

# Guidelines *versus* clinical practice in the treatment of COPD: a reappraisal

To the Editors:

International guidelines for the treatment of chronic obstructive pulmonary disease (COPD), particularly the Global Initiative for Chronic Obstructive Lung Disease (GOLD), have been available since 2001 [1]. So far, the adherence in the general practice to such guidelines is unsatisfactory with the use of the different drugs, namely  $\beta_2$ -agonists, inhaled and oral corticosteroids, anticholinergics and theophyllines, being markedly variable in different countries [2].

However, the GOLD classification of the severity of COPD, and consequently the suggested drug treatment, is based on the grade of impairment of the forced expiratory volume in one second (FEV<sub>1</sub>) and, therefore, the adherence to the guidelines can only be analysed when this parameter is assessed. Recent studies conducted in Europe, including Italy [3–5], reported an underuse of spirometry (with a frequency of utilisation ranging 30–55%) by general practitioners, making it difficult to evaluate the adequacy of their prescriptions.

We sought to evaluate the prescriptions of general practitioners who based their diagnosis of COPD on FEV<sub>1</sub> measurement by spirometry. In total, 20 general practitioners in Milan (Italy) participated in the study and 319 patients with COPD (195 males, 124 females, mean  $\pm$  SD (range) age 70.51  $\pm$  8.662 (41–94) yrs) were included in the evaluation. The drugs used by the patients were stratified according to GOLD stages and, for corticosteroids, related to a history positive or not for exacerbations. The prescriptions were compared with the 2004 updated version of GOLD guidelines indicating: 1) no drug for stage 0; 2) short-acting bronchodilators when needed for stage 1; 3) regular treatment with long-acting bronchodilators for stages 2–4; and 4) corticosteroids only in case of repeated exacerbations [6].

In total, 154 (48.3%) subjects were not using any drug. The most frequently prescribed drugs were inhaled corticosteroids (33.3%), followed by long-acting  $\beta$ -agonists (30.5%), anticholinergics (17%), theophyllines (8.5%), short-acting  $\beta$ -agonists (4.1%) and oral corticosteroids (3.5%). Regarding corticosteroids, 57.3% of patients had a positive history for exacerbations of COPD. Table 1 shows the drug prescriptions according to GOLD stages. The overall analysis showed that 151 of the 319 (47.3%) patients met the recommendations of GOLD guidelines.

The main differences in respect to previous studies involving general practitioners are the less frequent use of  $\beta_2$ -agonists (35% *versus* 56–71%) and inhaled corticosteroids (33% *versus* 47–50%), which is actually more adherent to Global Initiative for Chronic Obstructive Lung Disease indications. However, the fact that even when using forced expiratory volume in one second less than half the patients were treated in full agreement with the guidelines indicates the need of their further implementation among primary care physicians.

**TABLE 1** Drug prescriptions stratified according to Global Initiative for Chronic Obstructive Pulmonary Disease (GOLD) stages and divided for drug classes

GOLD	Patients	BSA	BLA	IC	OC	Theo	AC
0	50	1 (2)	7 (14.3)	9 (18.4)	1 (2)	1 (2)	4 (8.2)
1	65	1 (1.5)	16 (24.6)	19 (29.2)	0	2 (3.1)	8 (12.3)
2	116	5 (4.3)	35 (30.2)	35 (30.2)	3 (2.6)	14 (12.1)	17 (14.7)
3	64	5 (7.8)	27 (42.2)	32 (50)	2 (3.1)	5 (7.8)	19 (29.7)
4	24	1 (4.2)	12 (50)	11 (45.8)	5 (20.8)	5 (20.8)	6 (25)
All classes	319	13 (4.1)	97 (30.5)	106 (33.3)	11 (3.5)	27 (8.5)	54 (17)

Data are presented as n or n (%). BSA: short-acting  $\beta_2$ -agonists; BLA: long-acting  $\beta_2$ -agonists; IC: inhaled corticosteroids; OC: oral corticosteroids; Theo: theophyllines; AC: anticholinergics.

G.G. Riario-Sforza, C. Incorvaia, C. Pravettoni and N. Dugnani

Unit of Pulmonary Rehabilitation, ICP Hospital, Milan, Italy.

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