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Editorial

The Underdiagnosis of Chronic Obstructive Pulmonary Disease in Women. Another Pending Task?☆

El infradiagnóstico de la enfermedad pulmonar obstructiva crónica en mujeres. ¿Otra tarea pendiente?

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The prevalence of Chronic Obstructive Pulmonary disease (COPD) in various epidemiological studies conducted in Europe is between 5% and 11%, with a higher prevalence in men than in women. This can be explained by the higher prevalence of smoking in males, which is the principal risk factor associated with COPD, at least in industrialised countries.[1]

However, in recent years we have witnessed an increase in the prevalence of COPD in women, due to their incorporation to smoking in the 1960–1970s in developed countries,[2] (incorporation which has been somewhat later in Spain) and the exposure to other risk factors such as the combustion of biomass products, especially in developing countries.[3] In fact, in the year 2000 in the United States, mortality due to COPD in women exceeded that in men for the first time.[4]

From a symptomatic point of view, women with COPD have more dyspnoea, a higher prevalence of anxiety and depression and lower quality of life with respect to men for the same lung function and intensity of smoking, and more often have a chronic bronchitis-like phenotype, while males are more likely to have an emphysema phenotype. Furthermore, the loss of lung function that they experience may be greater than in men, and they have more difficulty in quitting smoking.[3,4]

Despite the increase in the prevalence of COPD in women, underdiagnosis in females is usually greater than in men. A clear example of this underdiagnosis was shown by Chapman et al.[5] In their study, they showed that when hypothetical cases of smokers with dyspnoea and cough were presented to Primary Care physicians, in which the only parameters that varied were sex and age, the probability of diagnosing COPD in men was greater than in women (58% vs 42%, $P<.05$).[5]

In the study published in this edition of *Archivos de Bronconeumología*, Ancochea et al.[6] present results on the underdiagnosis of COPD in women in Spain, its regional distribution and determinants, extracted from the EPI-SCAN epidemiological study. In this study, the rate of underdiagnosis in patients with COPD was very high, 73% in the population aged between 40 and 80 years, although somewhat lower than the 78.2% described 10 years earlier in the IBERPOC study. The distribution of this underdiagnosis varied according to sex, and was greater in women than in men (86% vs 67.6%, $P<.05$).

These women were younger, smoked less and had better lung function on the spirometry than men. By geographical areas, the underdiagnosis of COPD in women was widespread, although it was particularly significant in the areas of Córdoba and Vic, the latter area having a 100% rate of underdiagnosis in women.

It should be highlighted that in this underdiagnosed group of women with COPD, more than half did not smoke (55.3%). Similar data have been published in the PLATINO study, conducted in Latin America, in which 48.1% of the women diagnosed with COPD had never smoked either.[7] This leads us to think that other risk factors in addition to direct smoking could be contributing to the development of COPD, such as passive smoking and exposure to environmental and occupational pollutants, which could play a greater role than initially thought.

Orozco-Levi et al.[8] studied a group of women discharged after admission for exacerbation of COPD in Barcelona, and observed that 70% had never smoked; however, 85% of these women had been exposed to coal and/or wood combustion smoke, and there was an association between this exposure and COPD. The association between the exposure time and the development of COPD would also suggest a dose-response curve.[8]

The findings of this study are consistent with the data obtained by Ancochea et al.,[6] and show that there is a significant percentage of women with COPD who are not smokers and who may be exposed to other aetiological factors. This characteristic is an important aspect to bear in mind in the diagnostic approach to these patients.

Another factor to take into account is the age of the women diagnosed with COPD. Age within the group of non-smokers with COPD is often higher than the age of the group of smokers, which may lead to overdiagnosis of COPD, especially when the degree of impairment is mild using GOLD criteria, as happened in this study in most patients.[6]

The population recruited in the EPI-SCAN study was aged between 40 and 80 years, and there are publications that have demonstrated this tendency to overdiagnosis in the population

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aged over 65 years when a ratio between the forced expiratory volume in the first second (FEV_1) and the forced vital capacity (FVC) that is less than 0.7 is used to define obstruction.[9,10] This occurs even in the healthy non-smoking population. Considering the increase in life expectancy (which furthermore is longer in women than in men), this may lead to bias in the interpretation of results that may be more pronounced in women.

In short, the study by Ancochea et al.[6] reveals the significant underdiagnosis that exists in Spain in women with COPD, and leads us to reflect on how to improve its diagnosis in this patient group. It is therefore important that we doctors change our perception of COPD in women, and that we are aware of its different characteristics compared to men with this disease. Perhaps in this way we can help to increase its diagnosis and resolve this task we have pending with our female patients with COPD.

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