Prof. Jose Luis López-Campos (Figure 1) is an expert in respiratory medicine, pulmonology, chronic obstructive pulmonary disease (COPD) and pulmonary rehabilitation. He works as a respiratory physician at Virgen del Rocio University Hospital and an associate professor of Medicine at Seville University. He is also the secretary of the Group 5.2 Monitoring Airway Diseases of the European Respiratory Society (ERS). We had an interview with Prof. López-Campos during the ERS course on “Environmental respiratory diseases” in Guangzhou. In this interview, Prof. López-Campos has shared with us the relation between environment and COPD, the pharmacological treatment and multidimensional approaches for COPD.

JTD: As we know, you have given an impressive lecture in the ERS course on “Environmental respiratory diseases”. Would you like to share with us about the key points that you addressed in your lecture? I think those who could not attend this conference will be glad to learn your views via our interview.

Prof. López-Campos: In the lecture, my idea was to give a global and updated view on the pharmacological treatment for COPD. As you know, the Global Initiative for Obstructive Lung Disease (GOLD) strategy has changed considerably in the last few years. Accordingly, the therapeutic approach has also changed with the aim to get closer to a more patient-centered medicine. This new conception of the disease as a complex multidimensional disease makes us consider other variables apart from FEV1. It follows that old treatment strategies based on lung function will have to change with this new vision of the disease.

COPD is a chronic obstructive disease in which long-acting bronchodilators are the pillar for pharmacological treatment. Additionally, inhaled steroids can help decreasing the number of exacerbations if not adequately controlled by a long-acting bronchodilator. However, once the initial treatment has been established the progression of this treatment is not so well defined. Intensification of treatment depends on which aspect of the disease we need to improve: symptoms, lung function or exacerbations. Double bronchodilation is the preferred option if we want to impact on lung function or chronic symptoms. However, inhaled steroids should be use if we want to impact on exacerbation rate beyond that achieved by a long-acting bronchodilator.

JTD: In this conference, environment is an important topic. What do you think of the correlation between environment and COPD?

Prof. López-Campos: The relation between environment and COPD is extremely important. COPD is a multigenetic disease in which many genes participate. The different expressions of these genes interplay with the environment exposure to cause the final disease phenotype. It is well known that tobacco is the main environmental factor to develop COPD. However, biomass exposure is also a recognized risk factor for COPD. Chronic exposure to biomass smoke can also be related with a progressively decreased lung function. Different studies are starting to investigate on the different clinical expression of COPD associated with non-tobacco smoke with some interesting findings.
**JTD:** I am quite interested in your article entitled “Patient-centered medicine for COPD management: multidimensional approaches versus the phenotype-based medicine”. Would you like to share with us about the concepts of patient-centered medicine and multidimensional approaches?

**Prof. López-Campos:** COPD has been traditionally considered a relentlessly progressive disease in which the deterioration of lung function is associated with an increase in symptoms and exacerbations. However, we now know that this paradigm does not reflect the reality of the disease which is far more complex. Accordingly several initiatives have been established in the last years for a more personalized medicine.

So far three main approaches have been proposed in order to address the complexity of COPD as well as to develop appropriate diagnostic, prognostic and therapeutic strategies for the disease. These are the use of independent, clinically relevant variables, the use of multidimensional indices, and the so-called clinical phenotypes. All these three initiatives have pros and cons which are reviewed in the article you mention. Although these approaches are not perfect, they represent the first step towards patient-centered medicine for COPD. In the near-future, these different approaches should converge in one strategy to focus on the better management of COPD patients.

**JTD:** And how to achieve the ideal patient-centered goal, as we know medicines currently are expensive but probably not with good efficacy?

**Prof. López-Campos:** I have to disagree. Inhaled medicines for COPD have proven to have a good efficacy, with an adequate safety profile and have also showed to be cost-effective. COPD is an expensive disease. However, the greatest expenditure associated with the disease is not pharmacological treatment, but exacerbations and admissions. Interestingly, inhaled treatments for COPD decrease exacerbations, and so the reduce the cost associated with the disease. In this context, the best way to achieve an ideal patient-centered medicine is to consider the clinical expression of the particular case we are dealing with and modify treatment accordingly. In this strategy several key clinical manifestations in which we can impact with treatment must be selected to guide treatment.

**JTD:** For the best of patients, the multidisciplinary therapy is getting more and more attention. What do you think of this?

**Prof. López-Campos:** COPD is a complex disease with multisystem consequences. It follows that a multidisciplinary team should provide a better care. Apart from pulmonologists, some COPD patients may also benefit from rehabilitators and physiotherapist, nutrition specialist and several other medical specialties to treat comorbidities including cardiovascular and non-cardiovascular. Of especial interest is a timely correct psychiatric intervention for those patients with anxiety and depression.

**JTD:** In your presentation, the new medication like QVA149, which is a combination of LABA and LAMA, seems getting promising outcomes. While many COPD patients in Western countries were associated with obesity or overweight, could new medication or more treatments enhance the cardiovascular risk? And other medication such as statins, could bring direct or indirect benefit for patients. For such kind of research, could you give some suggestions?

**Prof. López-Campos:** A LABA-LAMA combination is becoming available in several countries. This double bronchodilation has shown to improve lung function importantly and consequently symptoms. The safety profile of these combinations seems to be adequate and no clinical trial has yet given any alarm sign.

Another question is the relationship of nutritional abnormalities (under or overweight). We know that underweight is a risk factor for mortality in COPD. However, obesity is also relevant, since it has been associated with decreased lung-function measures in population-based studies. Additionally it is a risk factor for several other diseases. It follows that a good nutrition scheme is key for a correct COPD management and recommendations should be given to patients and professional advice should be seek if needed.

The relationship of statins and COPD is a matter of debate. There are some articles highlighting the potential role of statins in reducing mortality, exacerbations or different clinical outcomes. However, the evidence is not consistent. So in my opinion this constitutes an interesting line for research.

**JTD:** Thank you very much!

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