

## Opinion on chronic pulmonary diseases and rehabilitation.

Cristian Iulian\*

Department of Pulmonology, University of Victor Babes, Timisoara, Romania

Accepted on August 08, 2017

In 2007 when author established the first pulmonary rehabilitation centre in Romania, author started to focus work on chronic pulmonary diseases and rehabilitation. Although author started his career in the physiology department, author quickly found his true passion for medicine and moved to the pneumology department.

The majority of the patients that we receive in the rehabilitation centre are with chronic diseases, thus author specialized in COPD, asthma, pulmonary fibrosis, emphysema, chronic bronchitis and in the past years pulmonary transplant.

Few years ago after meeting with a colleague from the neurology department, author receives a simple questionnaire that is used to detect minor cognitive impairment in elderly patients. As it is known that patients with chronic pulmonary diseases have a low intake of oxygen in severe stages of disease, author thought that this questionnaire could be also used to our patients.

A young PhD student was struggling to find a subject for his thesis and thus author proposed to him to use questionnaires used in other domains. At first the colleagues were sceptical but after the preliminary results came everybody was intrigued of the findings. Thus he started to explore the neuro-cognitive implications in COPD.

Instead of a formal introduction of his research interests and aspiration author will present a summary of his latest published articles, which earned him many prizes and are a part that made him known in his country for his contribution in the pneumology field.

His first article that was published in 2014 was the first study that used the MoCA questionnaire in patients with stable COPD and acute phases. The patients were divided into two groups, stable and acute COPD. A mechanism well known for cognitive impairment in these patients is the neuronal damage mediated by hypoxia as a result of the pulmonary disease or other co-morbidities that adversely affect the brain. His study was appreciated and well received due to the fact that we demonstrated that although the patients had a borderline hypoxemia (even in acute phases) they suffered from mild cognitive impairment. This article won in the same year the best prize given from the Executive Unit for Financing Higher Education in Development and Innovation Research. The next year it was well received in the ERS congress.

One day assisting in a rehabilitation session author observed that patients had difficulty in maintaining balance and walking. Author taught that maintaining balance and stability are important for functional independence in activities of daily living, mobility and most important avoiding falls. Again using questionnaires

and other batteries of tests from other domains such as geriatrics we analyzed the ability to maintain balance and the risk of falls in patients with COPD. This time we divided the patients into three groups: stable and acute COPD and a control group.

Again this was the first study that analyzed the balance ability in patients with COPD using three batteries of tests and three balance specific questionnaires. Due to the fact that falls are an important health problem with significant consequences for older adults, they wanted to emphasize the low interest given to the risk of falls in these patients and increase physicians attention to this fact. Not surprisingly we demonstrated that COPD patients especially in acute stages have an impaired balance and high risk of falls. Interestingly they found that the presence of inflammation was significantly associated with worsening in several balance tests, thus being a possible predictor for balance impairment in patients with COPD. The study won the best prize given by the Executive Unit for Financing Higher Education in 2015 and was also well received by the next ERS congress.

The last observation from the study caught our interest and in the same year we focused on systemic inflammation. They started from the hypothesis that inflammation can play an important role in balance impairment. Thus the next objective was to investigate if there is a link between lower extremity muscle weakness and systemic inflammation and balance impairment in patients with COPD. After dividing the patients into three groups as same as before we found that systemic inflammation plays an important role in lower extremity muscle weakness, balance impairment and risk of falls in patients with COPD.

Always collaborating with other colleagues from different medical fields has inspired him to use different tools to evaluate and analyze patients with COPD. Author has written them and been involved in different researches and studies. For the near future Author is preparing to be university professor and doctoral studies coordinator.

### \*Correspondence to:

Cristian Iulian  
Department of Pulmonology  
University of Victor Babes  
Timisoara  
Romania  
E-mail: oancea@umft.ro