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Rehabilitation**

Measurement of Arterial Blood Gases in Elderly Patients with COVID-19 Pneumonia and Chronic Obstructive Pulmonary Disease

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Abstract

The evolution of COVID-19 pneumonia seems to be linked to underlying comorbidities, and has an increasingly rapid and severe progression in these patients. Patients with chronic obstructive pulmonary disease (COPD) are also at higher risk for severe illness from SARS-CoV-2 viral pneumonia, especially in elderly population, that is more susceptible to this illness. The article represents a clinical study of invasive arterial blood gases measurement and non-invasive measurement of capillary blood oxygen saturation in elderly and middle-aged COPD patients with COVID-19 pneumonia. The study included 101 patients admitted to COVID-19 Triage Center with COVID-19 pneumonia and chronic obstructive pulmonary disease, aged between 45 and 86 years, divided into two groups according to their age. The arterial blood gases analysis demonstrated respiratory acidosis, hypoxemia, hypercapnia and alveolo-capillary block in both elderly and middle-aged patients. Significantly elevated levels of partial pressure of arterial blood carbon dioxide were observed in patients aged more than 65 years. Simultaneously, a discrepancy between almost suboptimal oxygen saturation values measured by pulse oximeter and higher levels of hypercapnia in arterial blood gases were registered. The measurement of arterial blood gases should be an obligatory tool to assess the severity of viral pneumonia in COPD patients, especially in those elderly ones.



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Keywords: arterial blood gases, Covid-19 pneumonia, elderly patients, chronic obstructive pulmonary diseases

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