

7. Kongres Hrvatskog  
torakalnog društva

7<sup>th</sup> Congress of Croatian  
Thoracic Society

**TORAKS**

2017

Hotel Westin Zagreb

**26. – 29. TRAVANJ / APRIL**



## **RISK FACTORS FOR INVASIVE MECHANICAL VENTILATION IN PATIENTS WITH ACUTE EXACERBATION OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE**

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**Background:** Standard treatment of patients with acute exacerbation of chronic obstructive pulmonary disease (AECOPD) with hypercapnic respiratory failure (AHRF) includes bronchodilators, corticosteroids, antibiotics, supplemental oxygen, noninvasive ventilation (NIV). The rate of NIV failure requiring invasive mechanical ventilation (IMV) in critical AECOPD patients may be as high as 63% (Intensive Care Med. 2004;30:1303-1310). Specific markers for identification of patients at high risk for respiratory failure progression despite appropriate therapy, which would consequentially lead to IMV are still not well defined. The aim of this study was to identify those factors.

**Methods:** 62 patients (40 man), mean age 68.4 (±10.4) years, admitted to respiratory intensive care unit due to AECOPD presenting with AHRF were included in the study. Patients were treated with bronchodilators, corticosteroids, antibiotics, supplemental oxygen, NIV as appropriate.

**Results:** 14 patients had to be invasively mechanically ventilated. No significant difference was found among of

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patients needed IMV and those who didn't for arterial blood gasses on admission. IMV group had significantly lower red blood cell count, hemoglobin and hematocrit ( $p < 0.001$  for all), higher white blood cell count ( $p = 0.036$ ), higher serum troponin T ( $p = 0.006$ ) and lower serum albumin ( $p = 0.002$ ).

Conclusion: Anemia, hypoalbuminemia, higher white blood cell count and higher troponin T level have been found as significant prognostic factors for respiratory failure progression requiring IMV initiation. This data could help define those patients who need the closest monitoring.