

European Respiratory Society Annual Congress 2013

Abstract Number: 7150

Publication Number: P2478

Abstract Group: 2.2. Noninvasive Ventilatory Support

Keyword 1: Critically ill patients **Keyword 2:** Mechanical ventilation **Keyword 3:** Acute respiratory failure

Title: The comparison of average volume assured pressure support and spontaneous/timed modes of noninvasive mechanical ventilation in acute hypercapnic respiratory failure

Dr. Fatma 964 Ciftci fatmaarslann@yahoo.com MD ¹, Dr. Aydin 965 Ciledag aciledag@yahoo.com MD ¹, Dr. Mirac 966 Oz ozmirac@hotmail.com MD ¹, Dr. Duygu 967 Acar duyguacar@yahoo.com MD ¹ and Prof. Dr Akin 968 Kaya kayaakin@gmail.com MD ¹. ¹ Department of Chest Diseases, Ankara University School of Medicine, Ankara, Turkey .

Body: Recently, hybrid modes have been developed in treatment of acute hypercapnic respiratory failure (AHRF). Average volume assured pressure support (AVAPS) is one of those newly developed modes. In this prospective, randomized study the effectiveness of AVAPS and spontaneous/timed (S/T) modes were compared in patients with AHRF. Patients considered to have noninvasive mechanical ventilation (NIMV) indication after clinical assessment and arterial blood gases analysis were randomized into two groups; S/T mode (n:10) and AVAPS mode (n:15). The study included 25 patients. The etiology of the AHRF was acute exacerbation of COPD in 20 (80%) patients, a sequela of tuberculosis in 1 (4%), bronchiectasis in 2 (8%), obesity-hypoventilation syndrome in 1 (4%), and overlap syndrome (COPD and obstructive sleep apnea) in 1 (4%). Initial pH ($7,29\pm 0,04$ vs $7,28\pm 0,03$), PaCO₂ ($67,87\pm 14,77$ vs $69,12\pm 16,45$), PaO₂ ($52,30\pm 16,81$ vs $49,62\pm 14,63$) values, GCS ($14.1\pm 0,9$ vs $12,67\pm 2,33$) and APACHE II (23.2 ± 5.5 vs 18.7 ± 4.8) scores were similar in both groups. Three (12%) patients in the S/T group and 2 (8%) patients in the AVAPS group were intubated. Mortality rates at seven days were similar in both groups (8%). A more rapid pH compensation (76 ± 12 vs 43 ± 13 hours, $p<0,05$), a more rapid improvement in PaCO₂, and a shorter daily of NIMV duration at the end of 72 hour (14 ± 2 vs 9 ± 3 hours) ($p<0,05$) was observed in the AVAPS group. In conclusion, AVAPS is an effective mode of NIMV in treatment of AHRF.