

# Efficacy of Tiotropium Inhalation Capsules in Patients with Chronic Obstructive Pulmonary Disease (COPD)

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**Abstract :** Tiotropium is a novel long-acting anticholinergic bronchodilator that has been developed for the treatment of chronic obstructive pulmonary disease (COPD). The objective of the present study was to investigate the efficacy of tiotropium in patients with COPD. This study was conducted over an 8-week period as an open prospective study. All patients had been diagnosed to have COPD as defined by the Global Initiative for Chronic Obstructive Lung Disease (GOLD) criteria. 31 Patients with stable COPD were enrolled in the 8-week open prospective study of tiotropium 18  $\mu$ g once a daily via a HandiHaler. At each of the three visits (weeks 0, 2 and 8) the FEV<sub>1</sub>, FVC, IC and thoracic gas volumes were measured at 10 to 11 o'clock after inhalation of tiotropium at 7 o'clock. Spirometric measurements were performed before and after the inhalation of procaterol. No patients withdrew due to a worsening COPD while 2 patients withdrew due to adverse effects (1 case of dry mouth and 1 case of dysuria). In all, 29 patients completed the study. Tiotropium increased the FEV<sub>1</sub> level before procaterol, at 2 weeks and at 8 weeks ( $0.12 \pm 0.05$ L  $p < 0.01$ ,  $0.13 \pm 0.05$ L  $p < 0.01$  respectively). In addition, tiotropium significantly increased the IC level, at 2 weeks and 8 weeks ( $0.12 \pm 0.05$ L  $p < 0.01$ ,  $0.13 \pm 0.05$ L  $p < 0.01$  respectively). We conclude that tiotropium 18  $\mu$ g was well tolerated and the observed improvements in the FEV<sub>1</sub> and IC levels reflect improvements in the obstructive ventilatory defect and hyperinflation which were sustained for 2 months.

**Key words :** Chronic obstructive pulmonary disease, Tiotropium, Spirogram, Inspiratory capacity