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**Original article**

**Effect of inhaled anticholinergic drugs on intraocular pressure in chronic obstructive pulmonary disease patients**

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**Abstract**

**Introduction:** Glaucoma is frequently seen in patients with chronic bronchitis who require treatment with nebulized Beta2 agonists and ipratropium due to accidental instillation in eyes. Significance of anticholinergic drugs used as inhalers by Chronic Obstructive Pulmonary Disease (COPD) causing raised intraocular pressure is unknown.

**Material and Methods:**  In this prospective study 132 COPD patients were included, 14 patients were excluded because on initial examination they had hyper mature senile cataract. 10 patients were excluded because they were not co-operating with the study protocol .108 patients on whom study were done were divided into 70 patients (study group) who received Ipratropium or Tiotropium with formetrol and fluticasone and 38 patients(contol group) took formetrol with fluticasone without ipratropium / tiotropium as Metered dose Inhaler (pMDI). General ophthalmic examination, and Gonioscopy was done as pre-treatment. Intra-ocular pressure measurement done in all patients before starting treatment, 2 hours after first dose and thereafter weekly for four weeks.

**Observation and Result:** The mean intraocular pressure (IOP) of right eye and left eye of study group and control group before medication and after inhalation of drugs compared and it was found that some change in IOP was seen at 28th day in both the group in each eye but that change was not significant in either group. All values of IOP are within normal clinical range in each group.

**Conclusion**: The inhaled anticholinergics all by MDI did not lead to any significant change in IOP after 2 hours, 1st, 2nd, 3rd and at 4th week of starting treatment.

**Keywords**: Inhaled Anticolinergics, Intraocular Pressure, Glaucoma