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Comparison of the impact of Ripasudil and Dorzolamide on intraocular pressure in patients on prostaglandin analogues

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This study reports on the effect of lowering intraocular pressure with the combination drug therapies, Ripasudil with Dorzolamide, given in conjunction with prostaglandin analogues (PGAs) in patients diagnosed with glaucoma. The study was conducted on a cohort of 120 glaucoma patients who required additional therapeutic interventions beyond latanoprost monotherapy to achieve optimal intraocular pressure (IOP) control. The IOP was measured weekly for 12 weeks during the study to evaluate the effectiveness of the drugs used in combination therapy. This compound, known as Ripasudil hydrochloride hydrate, or K-115, is a new class of Rho kinase inhibitors that have gained special interest because they decrease IOP without a well-characterised mechanism; its main advantage lies in enhancing aqueous outflow at the trabecular meshwork. The findings show that the IOP-controlling efficacy of Ripasudil is equal to that of Dorzolamide in combination therapy. In Group A, ocular discomfort was reported by 6 patients (10%), blurred vision by 3 patients (5%), and systemic side effects by 1 patient (1.7%). In Group B, ocular discomfort occurred in 4 patients (6.7%), and blurred vision occurred in 2 patients (3.3%), while no systemic adverse effects were reported. The overall incidence of adverse events was 16.7% in Group A and 10% in Group B, but this difference was not statistically significant ($P > 0.05$). This outcome underlines the role of Ripasudil as a potential substitute for patients who need supplementary IOP-lowering treatment over PGA monotherapy. In addition, the novel mechanism of Ripasudil presents some benefits, especially for patients with minimal response to carbonic anhydrase inhibitors. This study underscores the need to explore innovative adjunctive treatments for glaucoma and supports the clinical utility of Ripasudil as a safe and effective option when combined with prostaglandin analogues to achieve optimal IOP control.

Keywords: Ripasudil, Dorzolamide, Intraocular Pressure, Prostaglandin, Analogues