

The Role of Lipid Profile and Intraocular Pressure Lowering Medications in Patients Diagnosed with Primary Open Angle Glaucoma

Ahmed Asal, MD* Ali Alsada, BSc, MD** Ahmed Ali, MBCh***
Muhammed Abdulnoor, MBCh**** Hawra Shakeeb*****

Objective: To evaluate the relation between blood lipid profile and intraocular pressure in patients taking medication for primary open angle glaucoma and compare patients on monotherapy with those taking polytherapy.

Design: A Retrospective Study.

Setting: Salmaniya Medical Complex, Bahrain.

Method: Patients who were diagnosed as open angle glaucoma and have never had any previous eye surgery were included in the study from 1 August 2019 to 30 January 2020. Patients were divided into three groups based on the number of eye drops they were using to control their intraocular pressure (IOP). The group on monotherapy was compared with those on three medications regarding intraocular pressure and cup to disc ratio. Blood lipid profile was compared in the three medications group between patients who are meeting the target IOP and those above 18 mmHg.

Result: The mean cup-to-disc ratio (CDR) in the group of monotherapy (n=21) was (0.75 +/- 0.1 SD) and the mean CDR in the group taking three kinds of drops for glaucoma (n=20) was (0.6 +/- 0.2 SD); the difference was significant, P-value was 0.0028. However, the difference in (IOP) was not statistically significant, P-value=0.967. Triglycerides mean levels in the uncontrolled IOP with three anti-glaucoma drops group mean was 2.7 and triglyceride mean levels in the controlled group of IOP (below 18 mmHg) was 1.2, P-value=0.0035.

Conclusion: Patients on polytherapy and advanced cupping may not benefit from reducing the only modifiable risk factor of intraocular pressure compared to those taking monotherapy. Non-compliance and drug interactions may play a significant role. Early glaucoma surgery for open angle glaucoma may be more beneficial in lowering IOP than adding more drops.