ABSTRACT

Aim

To clinically analyse the association of systemic factors in primary open angle glaucoma.

Methodology

All were subjected to detailed anterior segment examination, best corrected visual acuity, intraocular pressure measurement either by Goldmann applanation tonometry or in cases with presence of corneal edema rebound tonometry reading was recorded, fundus examination gonioscopic examination and visual field analysis will be done. Surgical procedures like trabeculectomy, antiglaucoma device and laser trabeculoplasty were done where necessary.

All patients were screened for

- Detailed history of present illness, associated systemic illness
- Complete general examination of the patient and vitals measurement
- Visual acuity using Snellen’s acuity chart
- Complete examination of anterior segment and posterior segment
- Intraocular pressure measurement
- Direct and Indirect ophthalmoscopy
- Fields
- Random blood sugar, Blood Pressure
- Lipid profile
- Thyroid profile
- Complete hemogram
- ECG, Echo cardiogram
RESULTS:

In our study, the commonest age group was between 50-60 years. Males are slightly more than the females. In this study, 147 eyes (73.5%) presented with visual acuity of 6/36 or better. 52 eyes (26%) presented with visual acuity in the range of 6/60 to HM. The reason for defective vision was advanced glaucoma damage in 30%. 128 eyes (64%) presented with intraocular pressure in the range of 20-30 mmhg. 68 eyes (34%) were presented in the range of 30-40 mmhg. 4 eyes (2%) had >40 mmhg. 104 eyes (52%) were presented with CDR 0.7-0.9. 96 eyes (48%) had CDR 0.4-0.6. 140 eyes (70%) were having both superior and inferior arcuate scotomas. 10 eyes (5%) were presented with tubular field of vision.

On systemic evaluation, 25 patients (25%) were in prehypertension stage. 47 patients (47%) were hypertensives. Prehypertensives were having IOP range of 26-30 mmhg and CDR range of 0.6-0.7. Hypertensive group, 61% were having IOP range of >30 mmhg, 43% were having CDR range of 0.8-0.9, 44% were having CDR of 0.6-0.7.

17 patients (17) were in prediabetic stage, 39 patients (39%) were diabetics. Prediabetic group were having IOP range of 26-30 mmhg and CDR range of 0.6-0.7. Diabetic group were having IOP range of >30 mmhg, 35% having CDR range of 0.6-0.7 and 33% having 0.8-0.9.

23 patients were having cholesterol in the borderline. 24 patients were having high cholesterol levels. Borderline cholesterol group patients were having IOP range of <30
mmhg, CDR range of 0.6-0.7. High cholesterol group were having IOP range of 25-35 mmhg, 48% patients were in CDR range of 0.6-0.7, 9% having 0.8-0.9

7 patients (7%) were showing ECG changes which includes left ventricular hypertrophy and. 13 patients (13%) were anaemic. 12 patients (12%) were presented with hypothyroidism.

39 patients were having MOPP of <40 mmhg. This group, 21 eyes (53%) had IOP >30mmhg. 20 eyes (51%) had CDR 0.6-0.7, 19 eyes (48%) had CDR 0.8-0.9.

Out of 100 patients, 87 patients had systemic diseases. Among them maximum number of patients (47%) had hypertension. The second most common systemic disease presented was diabetes (39%).

CONCLUSION:

Mean ocular perfusion pressure,

This study indicates that there is a significant association between primary open angle glaucoma and hypertension, diabetes and dyslipidemia. There is a negative correlation between mean ocular perfusion pressure and severity of glaucoma.

Thus it highlights the role of vascular factors in the pathogenesis of POAG and undermines the importance of systemic investigations to find out associated systemic disorders thereby preventing further progression of glaucoma.
It also emphasises the importance of a good interaction between ophthalmologist and physician, enabling the diagnosis of primary open angle glaucoma at an early stage before significant loss of retinal ganglion cells thereby preventing further blindness.

KEY WORDS: Mean ocular perfusion pressure, retinal ganglion cells, dyslipidemia.