

COMPARISON BETWEEN LOW-VISION PROGRAM AND CONVENTIONAL PERIMETRY IN ADVANCED GLAUCOMA

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INTRODUCTION

Visual field testing is important for the diagnosis of glaucoma and even more important for follow up and management of glaucoma. Advanced glaucomatous loss is defined according to Hodapp, Parrish and Anderson's classification as mean deviation less than -12 dB or more than 37 points depressed below the 5% probability level or more than 20 points below the $p < 1\%$ level or absolute deficit (0 dB) in the 5 central degrees or sensitivity < 15 dB in the 5 central degrees in both hemifields. There is a limit to the visibility of the standard size III white perimetric stimulus in the patients with significantly impaired visual sensitivity. In order to increase the dynamic range into the low vision region and to make the stimulus more visible to these patients the Goldmann stimulus size V is typically used, instead of the standard size III. It is 16 times larger in area and is therefore more detectable.

AIM OF THE WORK

The aim of this study is to compare between low-vision program and conventional program in detecting visual field changes in advanced glaucoma patients.

SUBJECTS AND METHODS

The study included 30 eyes with advanced glaucoma. **Inclusion criteria:** patients with advanced stage of glaucoma, visual acuity equal 6/12 or worse, cooperative patient at any age group except those below 10 years of age. **Exclusion criteria:** patients with other diseases affecting visual field (brain lesions, diabetic retinopathy, neurological diseases and other optic nerve diseases), early to moderate stage glaucoma, patients with normal visual acuity or extreme errors of refraction, recent intraocular surgeries, aphakia, senile miotic patient and macular diseases.

Methods: The study was a comparative observational cross sectional study in which the patient was subjected to: **Complete history taking:** (age, gender, past ophthalmic history, medical and surgical history). **Examination:** (BCVA, IOP measurement, indirect gonioscopy, fundus examination, detailed examination of the optic disc).

Visual field testing 15 eyes examined by Octopus perimeter and 15 eyes with Humphrey field analyzer, each eye was tested twice at the same setting with a period of rest in-between (one time tested by Conventional program and the other time tested by the Low vision program).

RESULTS

Table (1): Distribution of cases examined by conventional program

The visual field defect	No.	%
Arcuate scotoma	1	3.3
Altitudinal field defect	1	3.3
Double arcuate field defect	6	20.0
Tubular field	18	60.0
Residual temporal island	3	10.0
Almost total loss	1	3.3

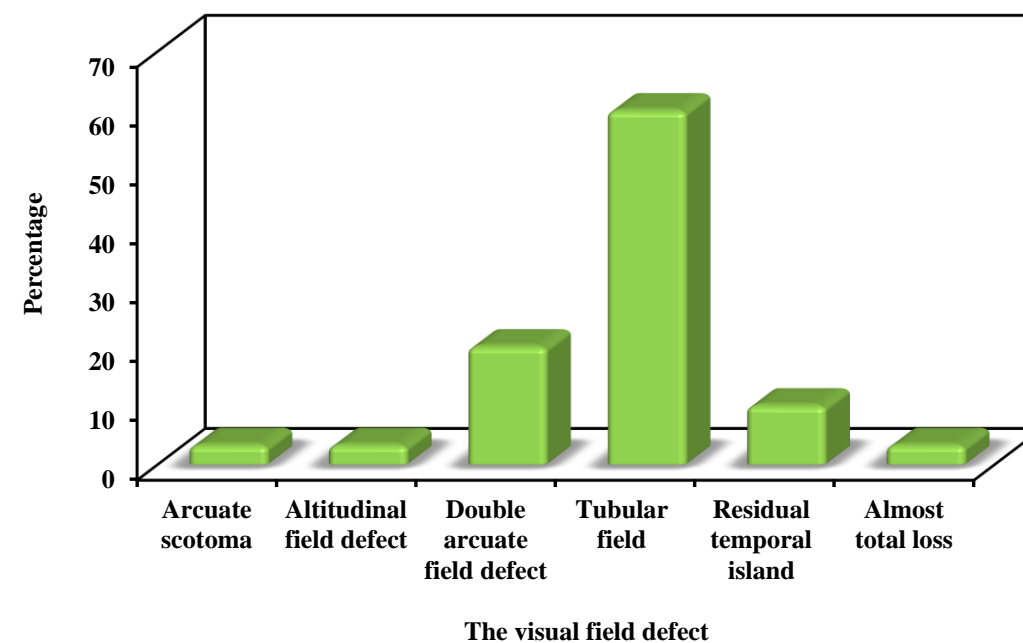


Figure (1): Distribution of cases examined by conventional program

Table (2): Distribution of cases examined by low vision program

The visual field defect	No.	%
Less than arcuate scotoma	7	23.3
arcuate scotoma	4	13.3
Altitudinal field defect	3	10.0
Double arcuate field defect	12	40.0
Tubular field	4	13.3

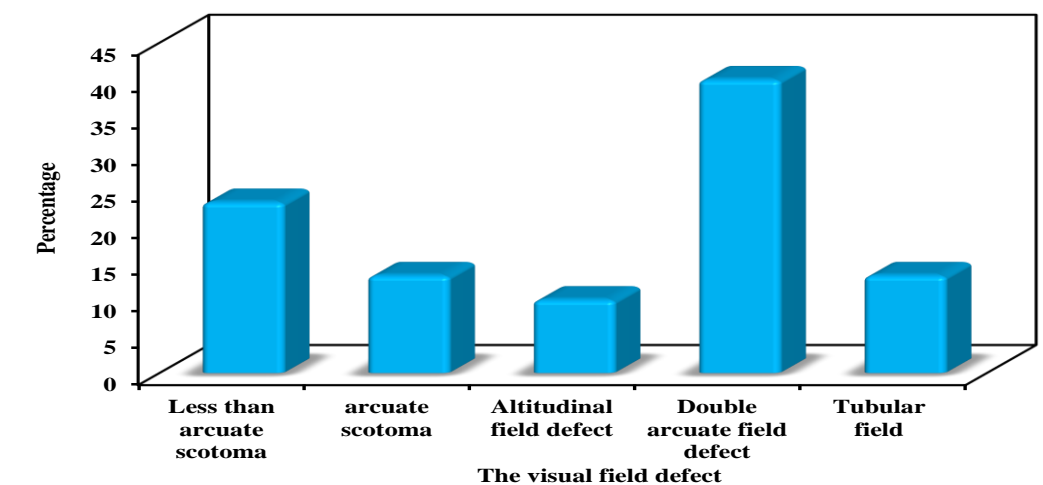


Figure (2): Distribution of cases examined by low vision program

CONCLUSION

The visual field examination of the patients with advanced glaucoma with low vision program gives better results compared with conventional program. Octopus perimeter gives more obvious results than Humphrey Field Analyzer in low vision program