POSTERIOR POLE AND PERIPHERAL RETINAL CHANGES IN MYOPIA.

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INTRODUCTION

- Myopia also known as short sightedness is a state of refractive error in which parallel rays of light coming from infinity are focussed in front of the retina when accommodation is at rest
- Patients with pathological myopia have increased risks of retinal complications such as retinal detachment, lattice degeneration, choroidal macular haemorrhage, and neovascularization.
- Retinal complications leads to loss of vision, thus the risk factors for the development of these complications in myopia needs to be evaluated for identifying High risk Patients.

AIM: To study the pattern of myopia related posterior pole lesions and peripheral retinal degenerations

METHODOLOGY:

Subjects who consulted at Outpatient room in Government Regional Eye Hospital VSKP were included in the study.

The inclusion criteria : Spherical myopic refractive error of all grades in at least one eye.

The Exclusion criteria : Subjects with a history of prematurity, previous retinal diseases including retinal detachment, or eyes with media opacity such as corneal scar or cataract obscuring detailed examination.

All subjects received a comprehensive ocular examination:

- Visual acuity
- Intraocular pressure (IOP) measurement by noncontact tonometer,
- Slit-lamp anterior segment examination,
- Non cycloplegic,
- Cycloplegic autorefraction,
- A-Scan .
- Dilated retinal examination is done with indirect ophthalmoscope and scleral indentation with slit-lamp.

Ocular measurements including refraction, axial length, spherical equivalent refractive error, IOP, findings of fundus examinations including posterior pole and peripheral retinal lesions were recorded.

RESULTS

The following results were observed from the study conducted in GREH VSKP

- The spherical equivalent refractive error of the 50 eyes is categorized into following.

REFRACTIVE ERROR	NUMBER OF EYES
-0.5 TO -2.0 D	12
-2.0 TO <-6.0 D	18
≥−6.0 D	20

TABLE 1

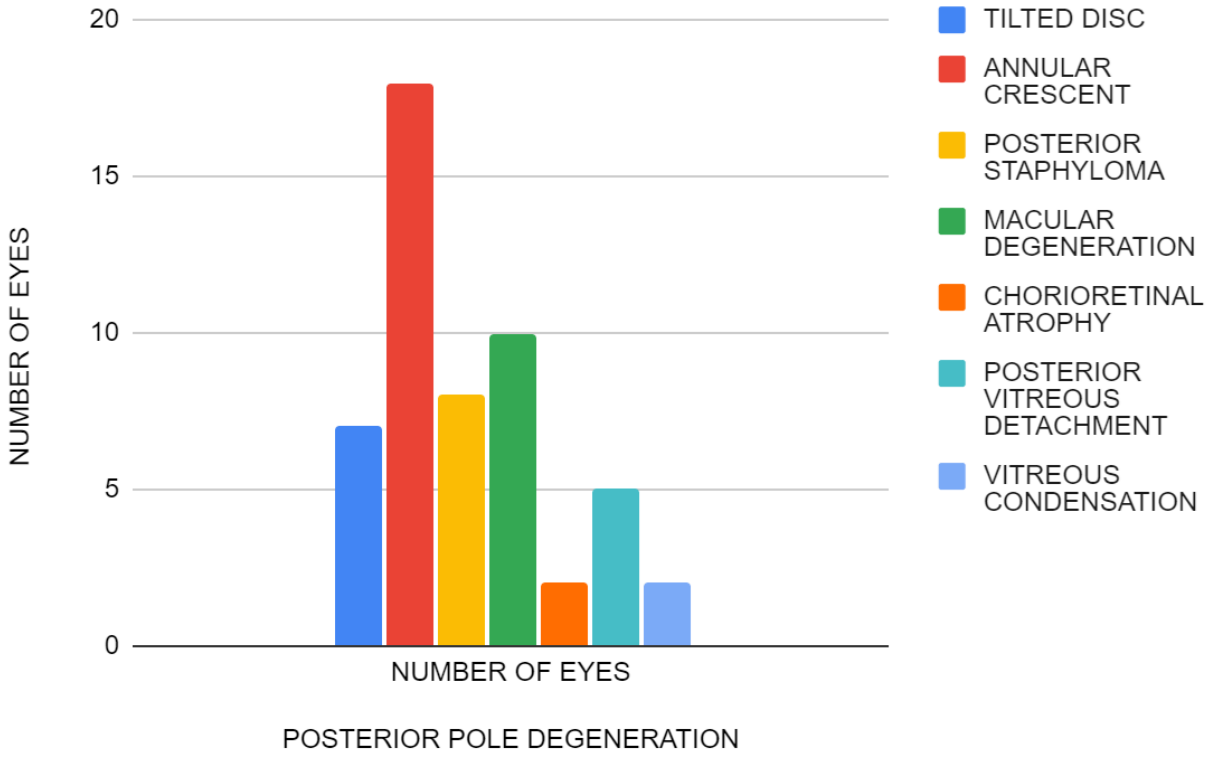
- In the study all the subjects are bilateral myopics with asymmetric refractive power in two eyes and high myopia being the most in number

REFRACTIVE ERROR	POSTERIOR POLAR CHANGES	PERIPHERAL RETINAL DEGENERATIONS
-0.5 TO -2.0 D	TILTED DISC	NONE
-2.0 TO <-6.0 D	ANNULAR CRESCENT TILTED DISC	SNAIL TRACT DEGENERATIONS LATTICE DEGENERATIONS PIGMENT LATTICE HORSESHOE TEARS ATROPHIC HOLES
≥−6.0 D	ANNULAR CRESCENT POSTERIOR STAPHYLOMA MACULAR DEGENERATION CHORIORETINAL ATROPHY POSTERIOR VITREOUS DETACHMENT VITREOUS CONDENSATION	SNAIL TRACT DEGENERATIONS LATTICE DEGENERATIONS PAVING STONE DEGENERATION PIGMENT LATTICE HORSESHOE TEARS ATROPHIC HOLES

Table: 2

Of the 50 eyes 11 eye are normal fundus without having posterior pole lesion and peripheral degenerations

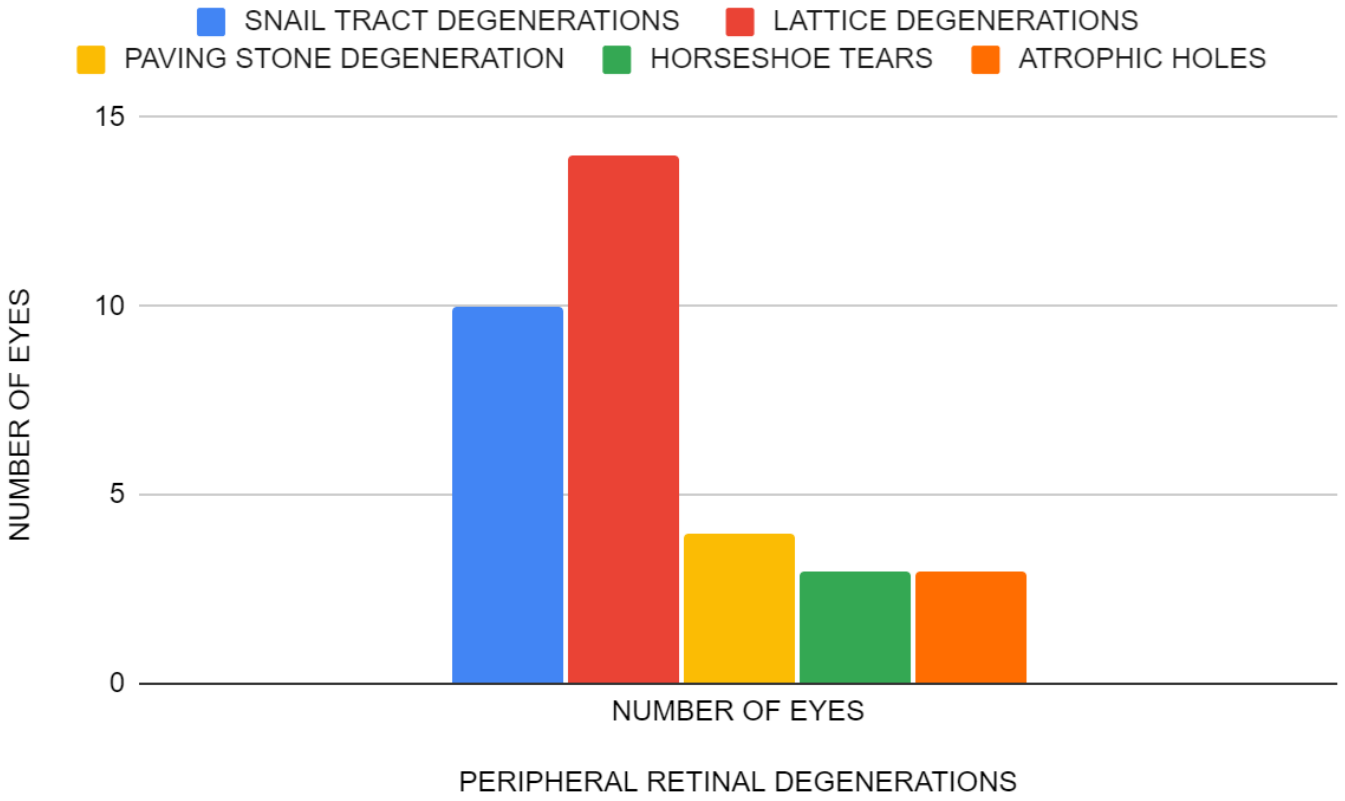
Posterior pole lesions



POSTERIOR POLE LESIONS

- Of the 50 eyes analysed, 22 eyes were found to have one or more posterior pole lesions
- Posterior pole lesions like,posterior staphylomas seen in8 eyes,macular degenerations seen in 10 eyes and chorioretinal atrophy seen in 2 eyes
- Vitreous condensation seen in 2 eyes and posterior vitreous detachment seen in 5 eyes
- Eyes with the presence of posterior pole lesion had significantly longer axial length , and higher degree of mean spherical equivalent refractive error of -13.5D.

Peripheral retinal degenerations



PERIPHERAL RETINAL CHANGES

- There were 34 eyes out of 50 eyes found to have one or more peripheral retinal degenerative lesion
- Sight threatening complications like horse shoe tears in 3 eyes and atrophic holes in 3 eyes are seen
- Mean axial length of eyes having peripheral retinal lesion is 19.7.
- The mean age and spherical equivalent refractive error of subjects with peripheral lesion were 34.7 years and −10.6 D.

DISCUSSION

- we found that more than 50% of eyes had one or more peripheral retinal lesion and 44% of eyes had posterior pole chorioretinal lesion
- In this study refractive error of -2.5.D have horse tear in 7 year old subject, and -3.00D have atrophic hole in 17 year old subject which explains the need for screening of all myopes irrespective of grade of myopia

According to Ohno-Matsui K et al study The refractive error or axial length alone often does not adequately reflect the ‘pathologic myopia’. Posterior staphyloma, which is a hallmark lesion of pathologic myopia, can occur also in non-highly myopic eyes. **2**

According to Haarman AEG et al Although high myopia carries the highest risk of complications and visual impairment, low and moderate myopia also have considerable risks. **6**

The findings in my study correlates with the above mentioned studies

Limitation of my study is small size sample

SUMMARY

Possible ocular risks associated with myopia should not be underestimated and prevent the progression of myopia by regular follow ups and detailed ophthalmoscopic examinations

Treatment modalities like optical and pharmacological interventions to slow down the progression and barrage laser for retinal holes to avoid serious complications like retinal detachments.

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THANK YOU