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Normal Tension Glaucoma: A Case Report

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Introduction

Normal tension glaucoma is one of the types of glaucoma in which optic nerve is damaged even though the intra ocular pressure remains in normal range.

It is characterised by following

1. IOP consistently equal to or less than 21 mm Hg on diurnal testing.
2. Signs of Optic Nerve damage in a characteristic glaucomatous pattern.
3. Visual Field loss as damage progresses, consistent with the nerve appearance
4. Open anterior chamber angle

No features of secondary glaucoma or Non-glaucomatous damage.

Chief complaints & history of present illness

A 53 years old male with diminution of vision both eyes since 1 year presented to the eye Out Patient Department on 08 Jan 2021 of Acharya Shri Chander College of Medical Sciences and Hospital, Jammu**.**

Diminution of vision of both eyes since 1 year gradual onset progressive in nature

Negative history of using spectacles, headache, pain, irritation, redness, watering, floaters, flashes, coloured haloes distortion of images

Past Ocular History: No previous ocular procedure or trauma

Past Medical History: History of Hypertension since 10 years on tablet Amlopress 5mg

Family History: History of Hypertension in father and younger brother and on anti hypertensives.

Ocular Examination & Investigations

Visual Acuity, with best correction: Right eye (OD)--20/20; OS--20/20

- Manifest Refraction: OD: -3.75 -0.75 x 050; OS: -3.75 -0.25 x 020
- Motility: Full, OU

Pupils Round Regular Reactive to light both eyes

Anterior segment Examination Unremarkable

Gonioscopy Open Angle to Ciliary body band for 360 degree OU.

• **Intraocular pressure by application tonometry** OD - 18 mmHg; OS -19 mmHg

• **Pachymetry by Anterior segment OCT :** 545µm OD, 535 µm OS correction factor applied 0 and +1 final IOP 18mmg OD OS 20mmhg.

• **Dilated fundus exam** (DFE):

- **OD**: Optic nerve with 0.7 cup-to disc ratio (CDR) with early superior notch
- **OS**: 0.8 CDR with inferior and superior notches.

Humphrey Visual field's strategy used Fast threshold (30-2)

OD full

OS inferior accurate defect superior and inferior nasal step.

Optical Coherence Tomography RNFL

OD means Nerve fibre layer thickness 74 µ

OS mean Nerve fibre layer thickness 62 µ

Additional findings Nil

Based on amount of cupping and visual field damage target IOP of **12-13 mmhg** was chosen.

Topical Latanoprost was prescribed in both eyes

Topical Brimonidine was prescribed in left eye.

Diurnal Curve demonstrated IOP range **14-20 mm Hg OD 12-18mm Hg OS** with peak of **20mm Hg OD** and **18 mmHg OS**

On subsequent follow up No progression in any visual field defects along with any disc change was present.

Optical Coherence Tomography (OCT)

- **OD**: mean nerve fibre layer (NFL) thickness of 74 µ
- **OS:** mean NFL thickness of 62 µ

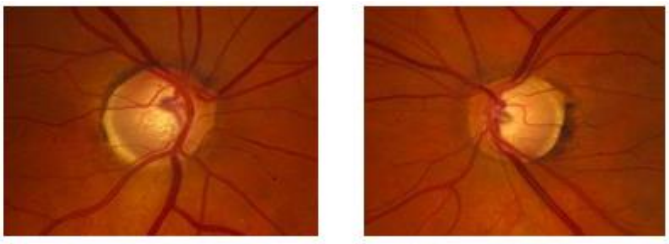

Fig 1: Optic Nerve Photographs

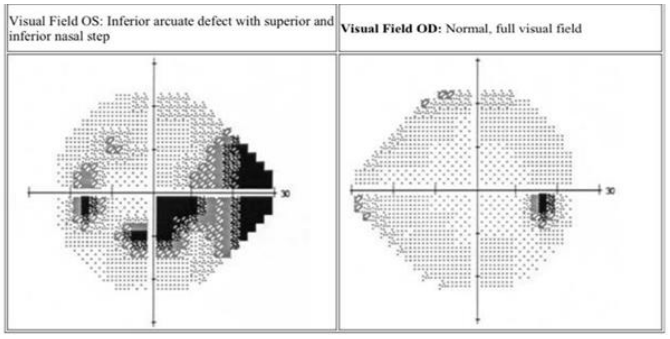

Fig 2: Perimetry Photographs, 08/01/2021

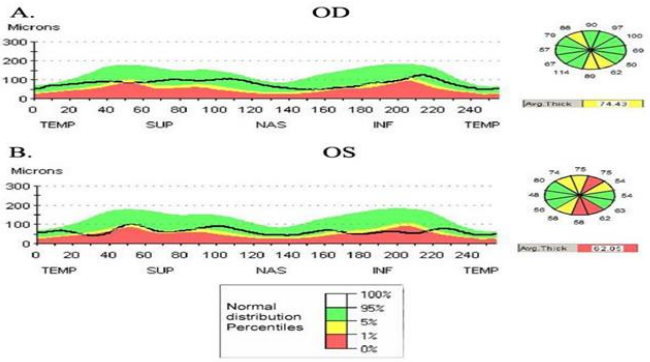

Figure 3: Ocular coherence tomography (OCT). A) Right eye shows loss of nerve fiber layer with an average thickness of 74 microns. B) Left eye shows more substantial loss of nerve fiber layer with an average thickness of 62 microns.

Discussion

Normal tension Glaucoma is characterised by following risk factors older age group, female gender which unlike in our patient who was 53 years old & male more frequent in Japanese Lower value of CCT have higher likelihood of NTG. In our patient CCT was recorded 545 µ & 535 µ. Systemic Hypotension incl. Nocturnal BP dips > 20 % however, in our case the patient was Hypertensive and on anti Hypertensives 10 years. Myopia has greater likelihood of NTG our patient Manifest refraction was Compound Myopic Astigmatism. Family History was Significant for Hypertension However there was No History of Glaucoma amongst the family members. The patient denies any History of Medications such as anti-

glaucoma, Steroids (oral & topical) . Neither the patient gave History of Trauma, Headaches. On systemic examination there was No Abnormality detected. Splinter haemorrhages are more frequent in NTG than POAG however in our case Both the Optic Disc were devoid of Splinter haemorrhages.

References

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