THE COLLEGE OF OPTOMETRISTS

Stage Two

Overarching case scenario 4

AGE AND GENDER 69yrs, Male

ETHNIC BACKGROUND Caucasian

OCCUPATION AND HOBBIES Retired Bus Driver, Hobbies: Watching TV, Metalwork (small sculptures and plaques). Driver.

PRESENTING SYMPTOMS AND HISTORY Distance vision mostly OK, but notices haloes around lights at night. Reading "could be better". Advised by GP to have regular eye examinations every year, does not know why. No family history of ocular disease.

Wears bifocal spectacles, prescribed for the first time at last examination and dislikes the 'line '. Drives. Has a previous history of "piece of metal in the eye" and this was removed at HES last year.

GENERAL HEALTH AND MEDICATION Has a heart condition and goes to hospital every six months for checkup. Takes bendrofluorazide, half an aspirin and amiodarone.

PRESENT Rx, CENTRATION AND ACUITIES Plastic D28 Bifocals OC's 69/64 mm

R +1.75 / -2.75 x 90 6/9-2 Near Add +2.50 N6

L +2.75 / -2.50 x 1006/9-2 Near Add +2.50 N6

PD/NCD 69/64 mm

VISION R 6/24 N24 L 6/24 N24

PINHOLE VISION R 6/9 L 6/9

REFRACTION

R +2.25 / -2.50 x 90 Add +2.50

L +3.25 / -2.50 x 100 Add +2.50

VA **Distance** R 6/7.5+2 **L** 6/7.5+2 **Near** R N5 L N5

ACCOMMODATION Depth of Field only

BINOCULAR STATUS

Distance NMD

Near 4prism XOP No FD

MOTILITY Full with no discomfort

CONVERGENCE 10cm

PUPIL REACTIONS D,N,C full R & **L.** No RAPD

FUNDUS EXAMINATION See attached

FIELDS See attached

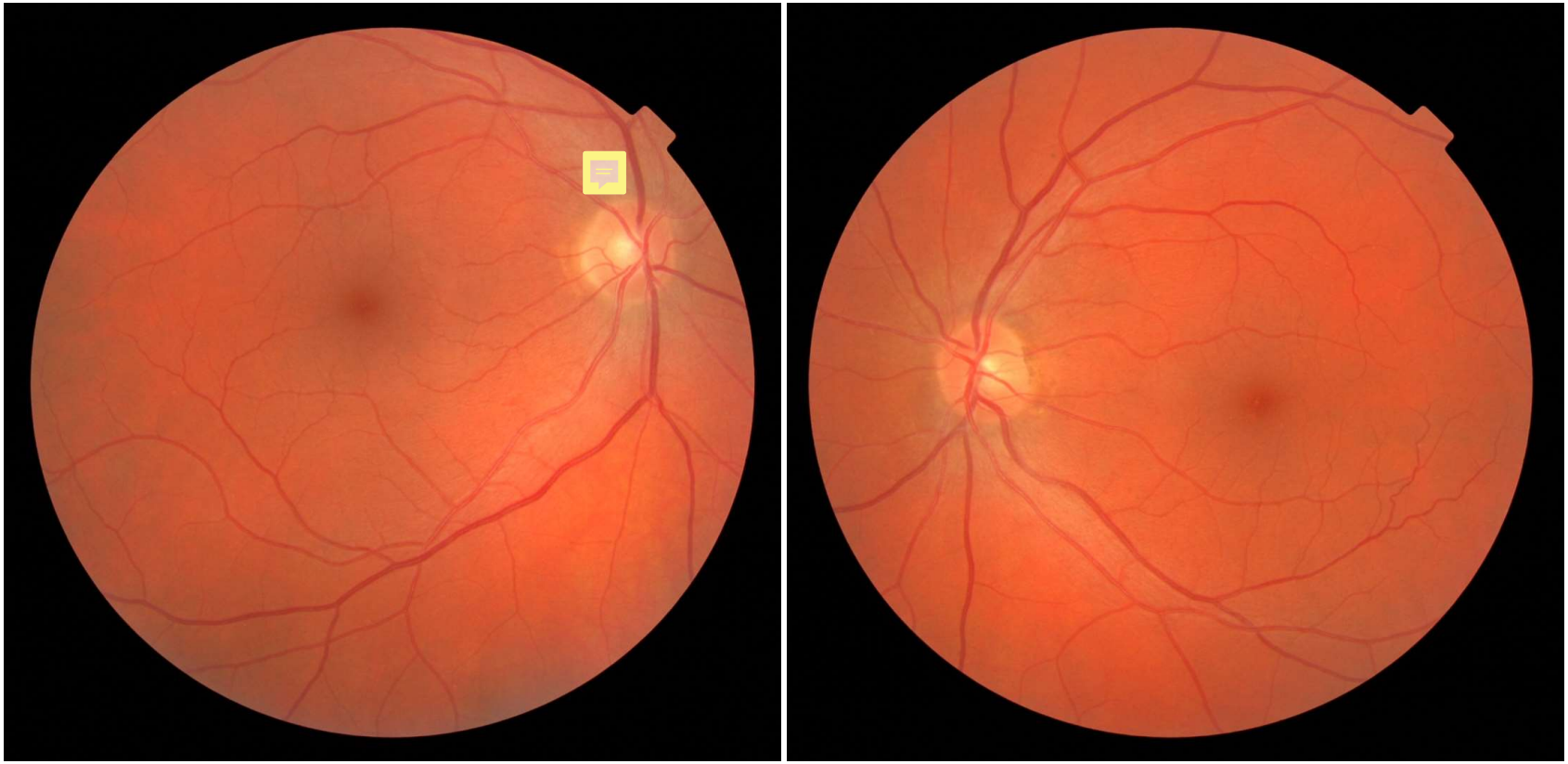
IOP R 10mmHg L 11mmHg @ 2.00pm Perkins

EXTERNAL EYE EXAMINATION : See attached

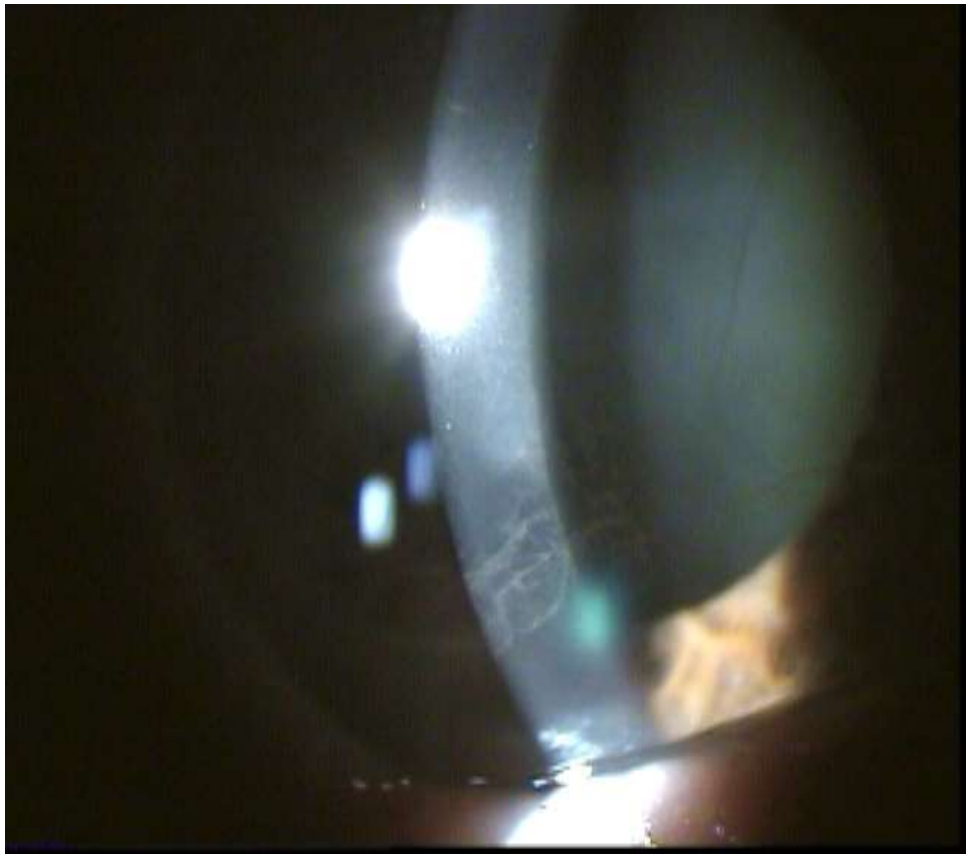
KERATOMETRY Consistent readings could not be obtained

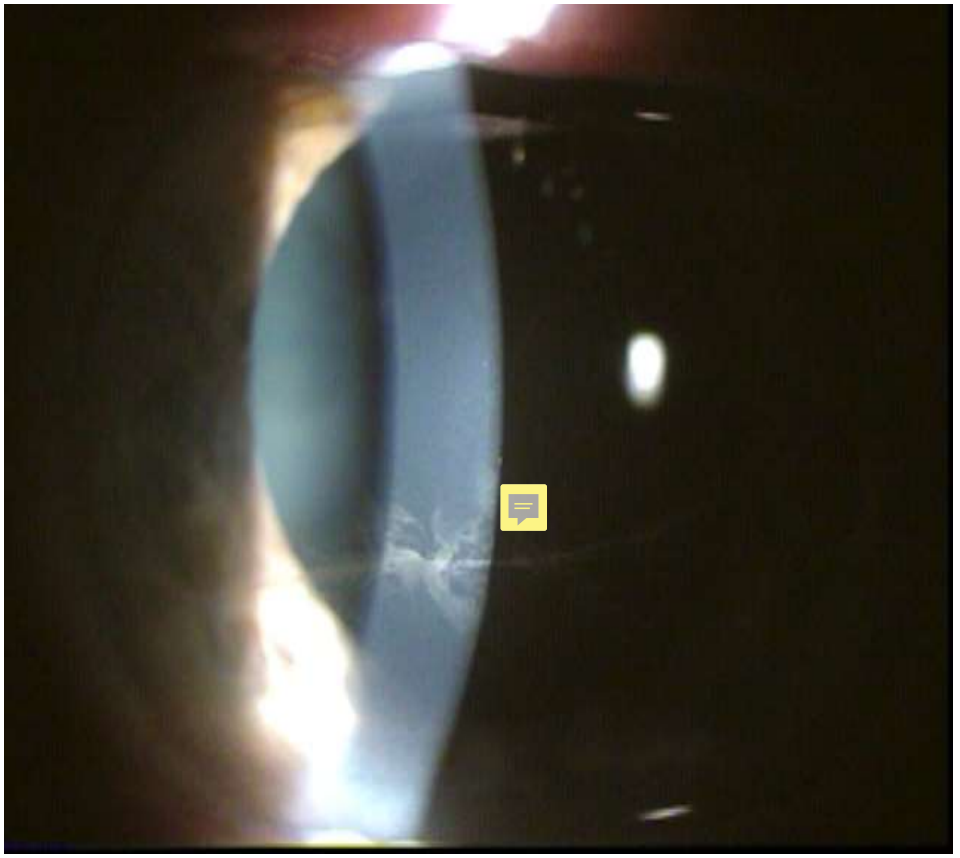
COLOUR VISION See attached

Fundus Image

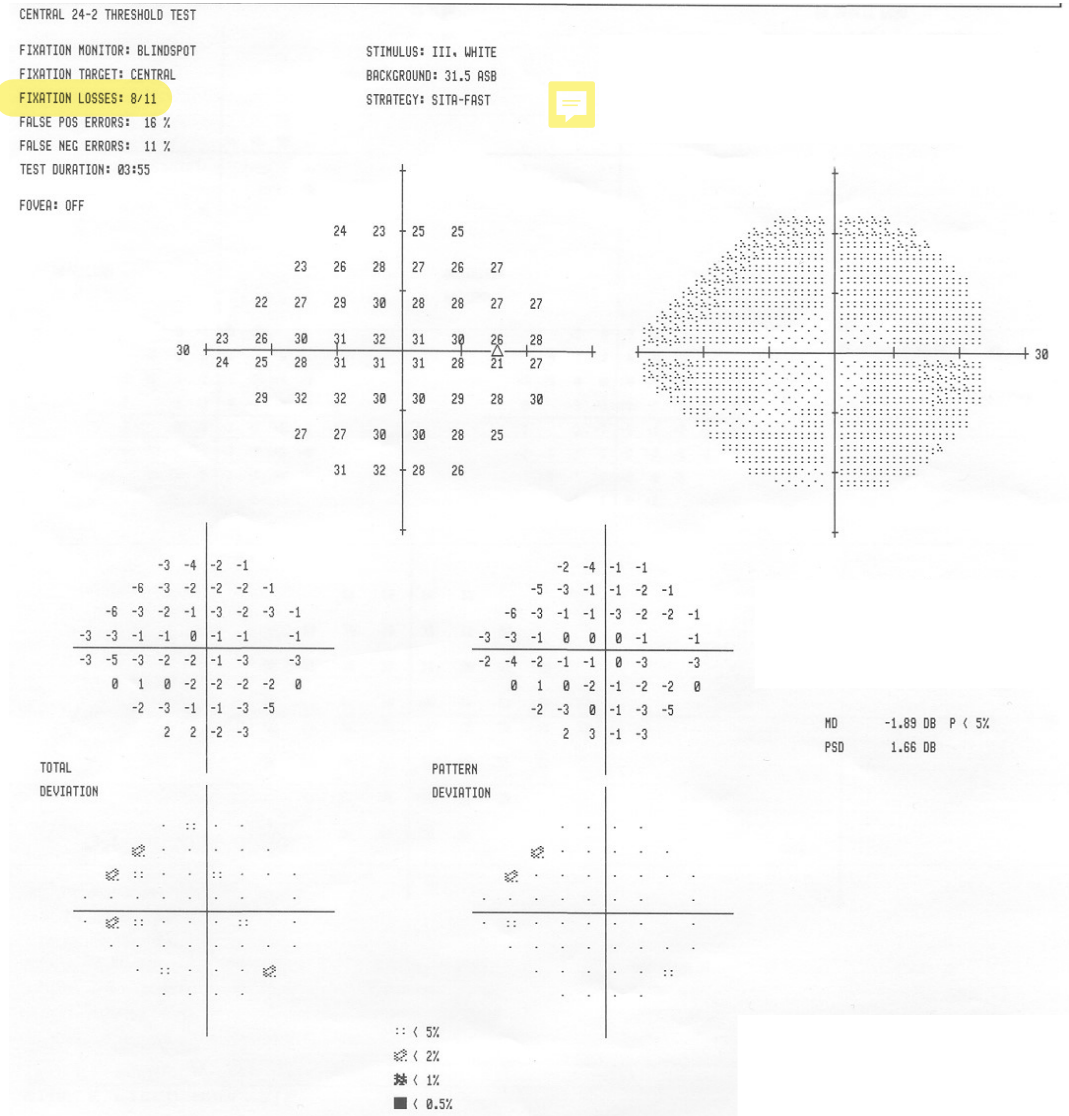


External Eyes – Slit lamp

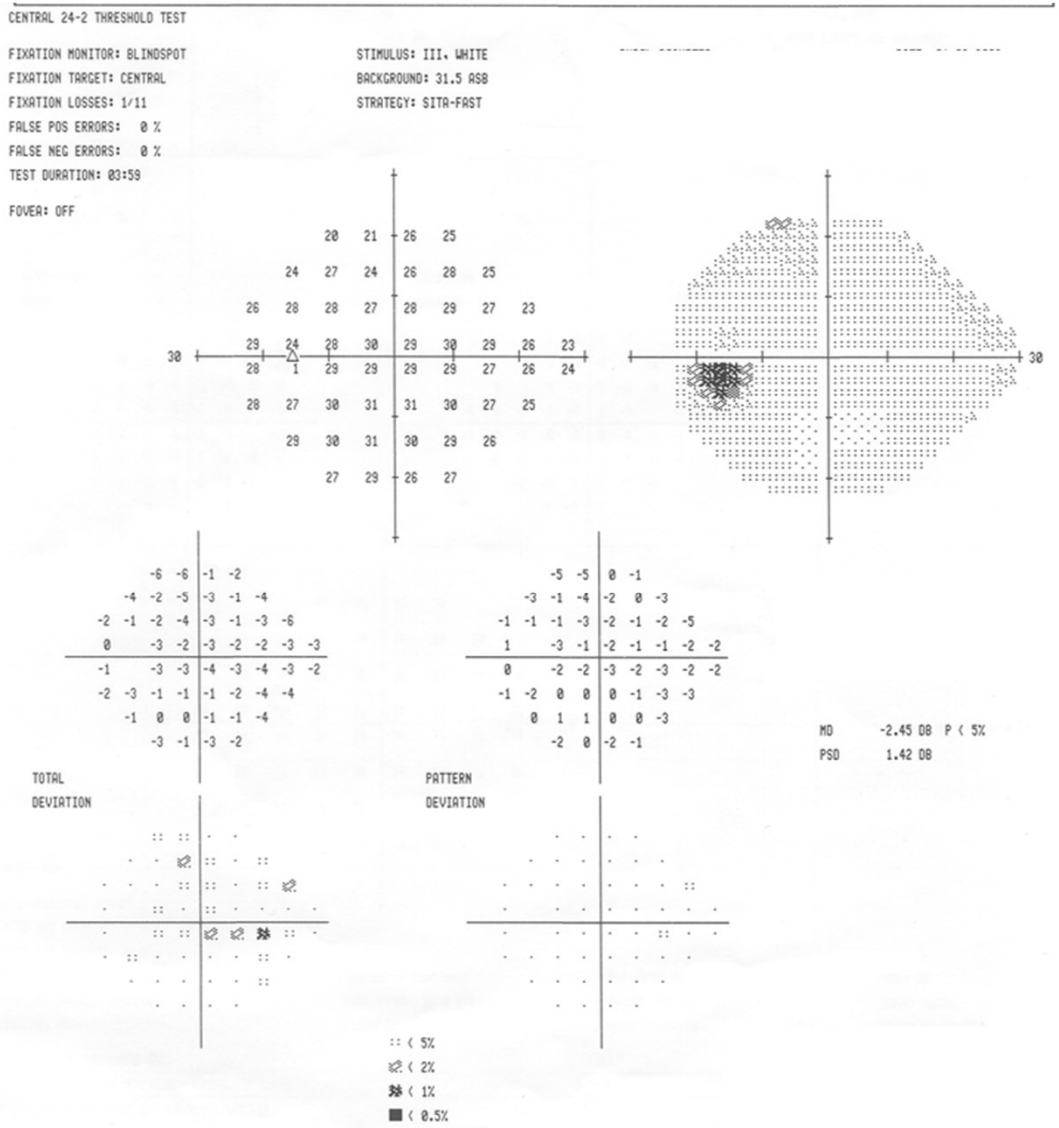




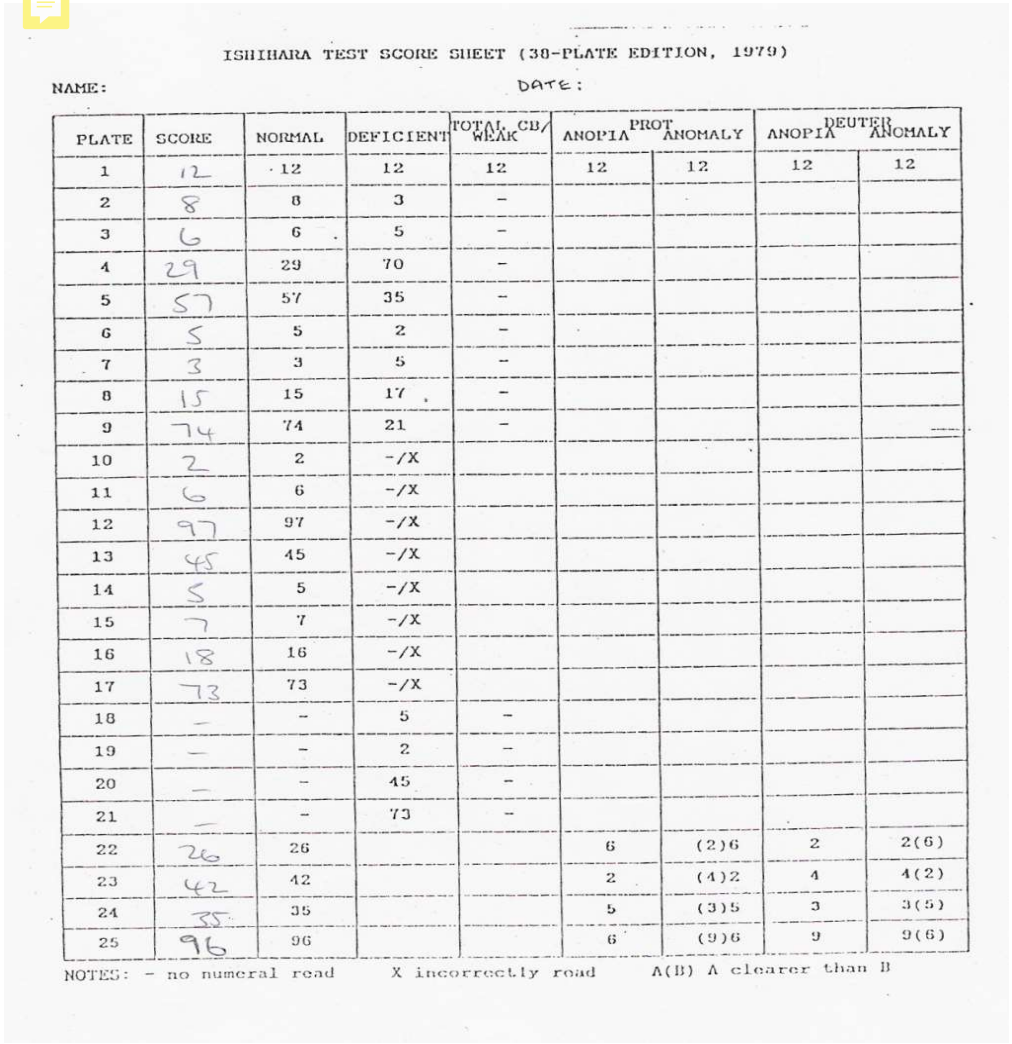
Field plot


CENTRAL 24-2 THRESHOLD TEST
FIXATION MONITOR: BLINDSPOT
FIXATION TARGET: CENTRAL
FIXATION LOSSES: 8/11
FALSE POS ERRORS: 16 %
FALSE NEG ERRORS: 11 %
TEST DURATION: 03:55
FOVEA: OFF
STIMULUS: III, WHITE
BACKGROUND: 31.5 ASB
STRATEGY: SITA-FAST
MD -1.89 DB P < 5%
PSD 1.66 DB
TOTAL DEVIATION
PATTERN DEVIATION
:: < 5%
< 2%
< 1%
< 0.5%

Field plot


CENTRAL 24-2 THRESHOLD TEST
FIXATION MONITOR: BLINDSPOT
FIXATION TARGET: CENTRAL
FIXATION LOSSES: 1/11
FALSE POS ERRORS: 0 %
FALSE NEG ERRORS: 0 %
TEST DURATION: 03:59
FOVEA: OFF
STIMULUS: III, WHITE
BACKGROUND: 31.5 ASB
STRATEGY: SITA-FAST
MD -2.45 DB P < 5%
PSD 1.42 DB
TOTAL DEVIATION
PATTERN DEVIATION
:: < 5%
< 2%
< 1%
< 0.5%

Colour Vision (Binocular)



ISHIHARA TEST SCORE SHEET (38-PLATE EDITION, 1979)

NAME: DATE:

PLATE	SCORE	NORMAL	DEFICIENT	TOTAL CB/ WEAK	PROT ANOPIA	PROT ANOMALY	DEUTER ANOPIA	DEUTER ANOMALY
1	12	12	12	12	12	12	12	12
2	8	8	3	-				
3	6	6	5	-				
4	29	29	70	-				
5	57	57	35	-				
6	5	5	2	-				
7	3	3	5	-				
8	15	15	17	-				
9	74	74	21	-				
10	2	2	-/X					
11	6	6	-/X					
12	97	97	-/X					
13	45	45	-/X					
14	5	5	-/X					
15	7	7	-/X					
16	18	16	-/X					
17	73	73	-/X					
18	-	-	5	-				
19	-	-	2	-				
20	-	-	45	-				
21	-	-	73	-				
22	26	26			6	(2)6	2	2(6)
23	42	42			2	(4)2	4	4(2)
24	35	35			5	(3)5	3	3(5)
25	96	96			6	(9)6	9	9(6)

NOTES: - no numeral read X incorrectly read A(B) A clearer than B

Case scenario 4

Key points:

- 69-year-old
- Haloes around light (painless)
- Finds NV could be better, does sculpture as hobby
- GP advised eye test but no ocular issues apart from FB removal
- Medications: amiodarone, aspirin, bendrofluomethiazide
- Dislikes bifocals due to the 'line'

Clinical findings:

- Vortex keratopathy
- Low IOPs, healthy optic discs

The points of discussion to address his concerns are centered around:

1. Haloes around lights
2. Finding his near vision could be better
3. Dislikes his bifocals

Questions to consider:

- **What other tests would you carry out and why**
- **What is the cause of the haloes around light**
- **How do you explain this and manage your patient**
- **Dispensing considerations to suit his lifestyle and visual needs**

The most common causes of haloes around lights are due to an uncorrected refractive error, corneal or lens changes.
e.g. Fuch's endothelial dystrophy, central corneal scarring at the visual axis, cataracts, close angle closure glaucoma (intermittent attacks), dry eyes, migraines

From the slit lamp exam, we can clearly see bilateral vortex keratopathy caused by the drug Amiodarone, which is likely the cause of his haloes. Other uncommon drugs that can result in vortex keratopathy are hydroxychloroquine, chloroquine, tamoxifen, gentamicin, chlorpromazine.

However, we should also rule out other possible causes mentioned above with proper history taking and clinical investigations.

Assess the van herrick angle to rule out intermittent close angle attack. In rare cases, an episode may be painless, but the patient will have mild blurry vision with haloes around

light. Outside of the attacks, the IOP will be within the normal range, with normal visual fields and optic discs.

A corneal scar is unlikely in this case as it's very distinct from the whorl-like pattern of vortex keratopathy.

Cataracts are also known to cause visual disturbance. Record, grade and describe the type of cataract present. But given his good corrected visual acuities, he is also unlikely to have significant cataracts.

Dry eyes – ocular surface disease can result in haloes around light that comes and goes quickly with a blink. The eyes may feel gritty. This can be confirmed with TBUT and managed with lubricants.

Migraines – visual disturbance across the vision, usually lasting minutes. The source of haloes won't just be confined to be around lights but more across the vision in most cases, again unlikely to be the cause here.

Diagnosis

The cause of haloes in this case is likely due to vortex keratopathy, a well-known side-effect of amiodarone but the presence of this does not correlate with retinal toxicity.

Vision is typically unaffected and resolves on cessation of the drug.

The possibility of optic neuropathy should be considered if patients taking amiodarone or tamoxifen presents with reduced vision in the absence of other ocular pathology. Routine examination with OCT and visual fields 10-2 is recommended if this happens and co-management with the cardiologist to reduce the drug dose or change medication.

Management

Reassure the patient that his eyes are healthy and there are no signs of retinal toxicity that affects the vision. The haloes around light due to the corneal changes is a side effect of taking amiodarone. This can be managed with the use of sunglasses, tints, or anti-reflective coating on lenses.

Next, address the change in his vision, a more hyperopic shift is obtained and that explains why he finds a change in his near vision. He will benefit from a new prescription, but the next question is, what sort of lenses should we recommend?

We know that he does not like bifocals. Why? Is it a cosmetic issue? Or the change in distance and near portion is too abrupt that he is tripping over? Or a small reading area that makes his sculpture and metalwork difficult?

By asking and finding out the limitations of the bifocals, we can give better recommendations. Some prefer having separate reading glasses for detailed close work and a pair of bifocals/varifocals as the main pair for general use.

If he is going for separate SVD/SVN, remind him that when driving with the SVD, the dashboard may appear blurry. He may not be able to watch the TV and use his phone/look down at the same time. Most people forget how convenient multifocals are until they change back to separate glasses.

If you recall from the history taking, he had a history of foreign body in his eye, likely due to his hobby of doing metalwork. You have an obligation to advise on appropriate safety eyewear, even if it's for a hobby.

Does the metalwork involve welding, grinding? If so, a visor or goggles will offer protection against electrical arcs.

If not, a pair of safety spectacles with polycarbonate lens to protect against flying dust and particles will suffice. The lens type will depend on the nature of his hobby, if a varied working distance is required, varifocals will be more suitable due to the extended range of working distance compared to bifocals/single vision.