Practical Approach to the Patient with Double Vision

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Objectives

1. Describe important historical points.

2. List fellow travelers.

3. Describe the importance of determining the pattern of misalignment.
Diplopia

3 Essential Questions

1. Monocular or binocular?

2. Constant or not?

3. Duration?
Diplopia

Monocular

uncorrected astigmatism
corneal scar
cataract
subluxed lens / implant
epi-retinal membrane
palinopsia
Diplopia

Monocular - Assessment

pinhole
refraction
corneal topography
slit lamp exam
funduscopy
Monocular Diplopia

Neurologic
Diplopia

3 Essential Questions

1. Monocular or binocular?

2. Constant or not? (relieving/exacerbating)

3. Duration?
Diplopia

3 Essential Questions

1. Monocular or binocular?

2. Constant or not?

3. Duration? (> or < 3 months?)
Isolated vision problem?
Examination

Fellow Travelers

- eyelids
- orbital signs
- trigeminal / facial nerve function
- head position
Fatiguable Right Upper Lid Ptosis
Cogan’s Lid Twitch
Myasthenia Gravis

Ice Test

2-minute ice application to ptotic lid

>1 mm improvement sensitive, specific

Ice Test
Examination

Fellow Travelers

- eyelids
- orbital signs
- trigeminal / facial nerve function
- head position
Look down across corneas
Examination

Fellow Travelers

• eyelids
• orbital signs
• trigeminal / facial nerve function
• head position
Examination

Fellow Travelers

- eyelids
- pupils
- orbital signs
- head position
Diplopia

Pattern of ocular alignment is essential to the diagnosis.
Assessment of Misalignment

Objective Methods

• cover - uncover (tropia) + prism

• cross - cover (phoria) + prism

• Hirschberg (I don’t want to hear it!)
Esotropia
Exophoric
6th nerve palsy
ET in R gaze
Check other adjacent CNs
71 y/o WF c/o diplopia for at least several months.

Binocular, horizontal, distance

Denies variability, ptosis, other muscle weakness

Exam: mild ptosis, full d/v,

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Sagging Eye Syndrome

Measured:

• Rectus pully locations
• Lengths of LR-SR band ligament & rectus muscles
• Facial features

LR-SR Band
Sagging Eye Syndrome

Prevalence in Adults with Diplopia

– All new pts age > 40, 2015-2020
– 945 pts, mean 66.5
– SES 31.4%, older (71) & female (60%)
– SES 4.7% age < 50, 61% age > 90
– Cyclovertical component 65%

Internuclear Ophthalmoplegia (INO)
Internuclear Ophthalmoplegia (INO)

ipsilateral adduction deficit
ccontralateral abducting
nystagmus
Left INO
Left 3rd nerve palsy
Thyroid Eye Disease
Anti-GQ1b Ab

Miller-Fisher variant of Guillain-Barre

ophthalmoplegia
areflexia

post-infectious (campylobacter)
CC: A 56-yo-WM c/o diplopia X 1 week
PMH: HTN, asthma

Exam:

VA: 20/20 OU

Pupils: 4 ⇒ 2, brisk, no rapd

Motility: mild deficit in depression OD

RHT in downgaze
Myasthenia Gravis

Symptoms

Variable and/or fatiguable ptosis, diplopia & lagophthalmos

“Blur” resolving with monocular occlusion

But non-myasthenic ptosis and diplopia will often worsen at the end of the day.
Myasthenia Gravis

Eyelid Signs

Ptosis - variable, attempt to fatigue

Cogan’s lid twitch - lid rapidly settles into a lower position after upward saccade

Orbicularis weakness - if severe lagophthalmos results
Myasthenia Gravis

Motility Signs
Ocular misalignment may mimic any pattern
measurements may vary

Ophthalmoplegia
uni- or bilateral - any pattern
try to fatigue
Myasthenia Gravis – Fatigable Ophthalmoplegia
Myasthenia Gravis

Testing

Sleep/Rest Test

Patient closes eyes for 30 minutes
Ptosis measured before and after
Myasthenia Gravis

Pre-rest

Post-rest
Brown Tendon Sheath Syndrome
Summary

1. Make sure it's not monocular!

2. Check fellow travelers (lids, orbital signs, adjacent cranial nerves).

3. Must determine the pattern of misalignment.

4. Consider Myasthenia in every patient with double vision or ptosis.
Thank-you for your attention.