



SUPERIOR OBLIQUE MYOKYMIA

DIAGNOSIS AND MANAGEMENT

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Background

- * Superior oblique myokymia (SOM) is an uncommon, chronic, eye movement disorder.
- * Associated with paroxysmal, monocular, high frequency bursts of contraction of the superior oblique muscle which typically last for seconds.

Background

- * Produces recurrent attacks of oscillopsia , often associated with vertical and/or torsional diplopia.
- * Etiology is not clearly understood.
- * 1983: Bringewald postulated that SOM could result from vascular compression of the trochlear nerve.

Objective

- * In this retrospective interventional case series, we describe the clinical findings of 3 patients with chronic, symptomatic SOM.
- * We also evaluate the results of ipsilateral superior oblique tenectomy combined with inferior oblique disinsertion / myectomy.

Methods: *Subjects*

- * 3 patients with symptomatic SOM (from the practice of Dr Francis Evoy) were referred to Dr Michael Flanders for possible surgical intervention.
- * 2 patients underwent surgery (2006 + 2010).

Methods: *Subjects*

Ophthalmological evaluation :

- a) Observation + Photo documentation.
- b) BCVA + Stereo.
- c) PCT (6 m, 1/3 m, cardinal positions).
- d) Motility.
- e) Dilated fundus exam.

Methods: *Subjects*

Neurological evaluation:

- a) Normal head MRI in all 3 pts.
- b) Medication trials.

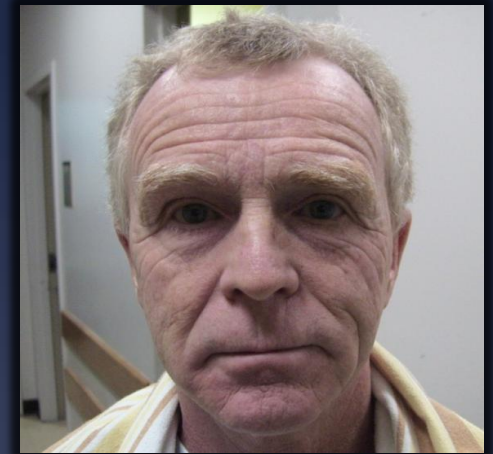
Methods: *Subjects - pt #1*

Age	40 yr old woman
Affected eye	OD
Visual symptoms	Progressive, intermittent vertical + torsional oscillopsia x many yrs
Associated symptoms	Headache
Medical Rx	Tegretol + Neurontin → ineffective
BCVA	OD: 20/20 (+1.50) OS: 20/20 (+1.50)
Align + Motility	Normal for distance and near



Methods: *Subjects – pt #2*

Age	58 yr old man
Affected eye	OD
Visual symptoms	Repetitive, intermittent, vertical + torsional oscillopsia x4 yr Vertical diplopia
Associated symptoms	Nausea
Medical Rx	Tegretol (800 mg/d) → ineffective
BCVA	OD: 20/20 (-0.50+0.75x180) OS: 20/20 (-0.25)
Align + Motility	Normal for distance and near



Methods: Subjects - pt #2 – con't



Methods: *Subjects - pt #3*

Age	37 yr old man
Affected eye	OS
Visual symptoms	Intermittent, vertical + torsional oscillopsia x 2 yrs Vertical diplopia
Associated symptoms	Working + driving difficulties → Closes (L) eye
Medical Rx	Tegretol → partial improvement
BCVA	OD: 20/20 (pl) OS: 20/30 (pl)
Align + Motility	Normal for distance and near



Methods: *Subjects – pt #3*

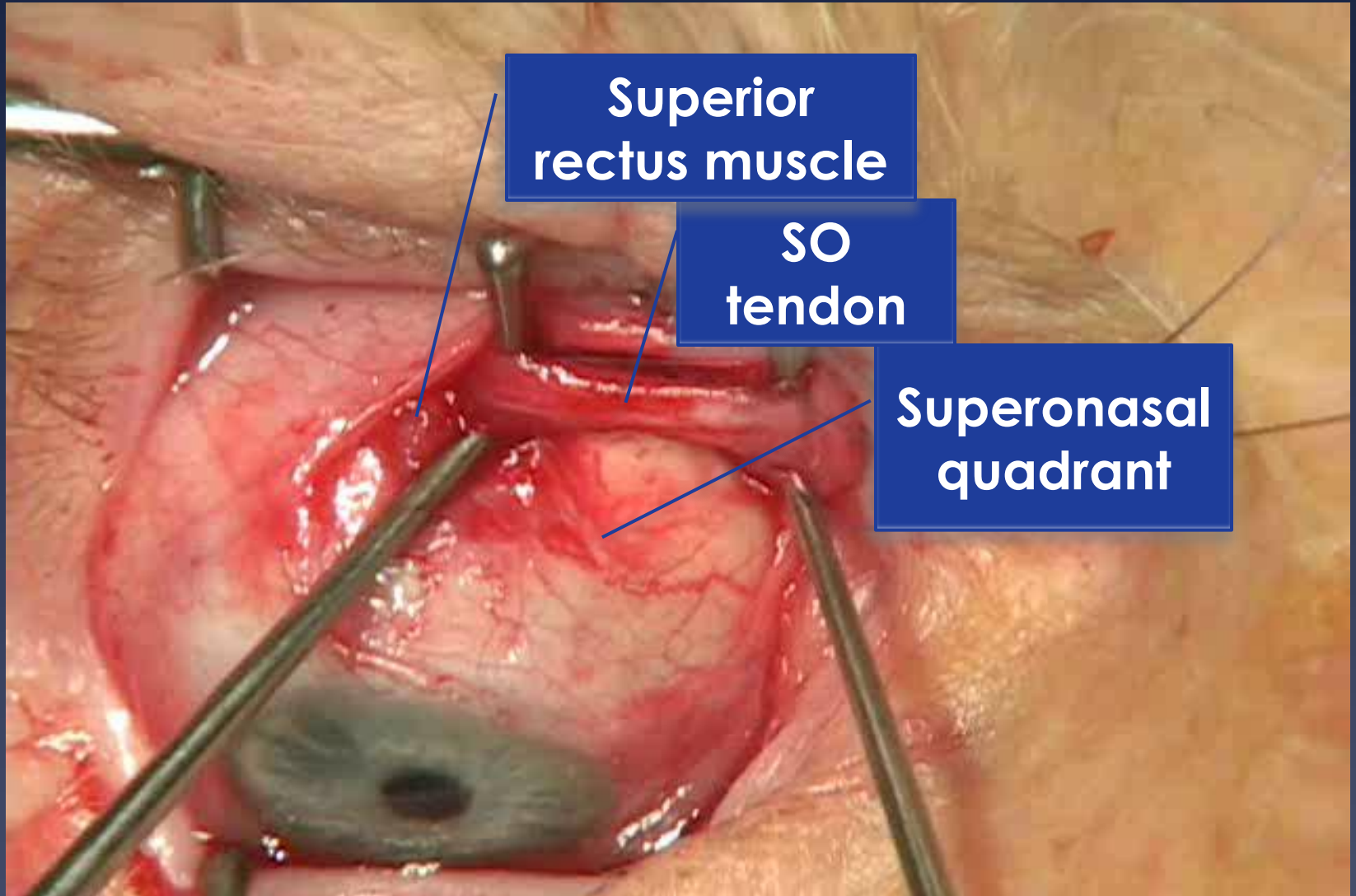
Methods: *Surgery (pts #1 & #2)*

- 1) Tenectomy of affected superior oblique (excision of 5 mm segment of tendon).
- 2) Disinsertion - myectomy of ipsilateral inferior oblique.

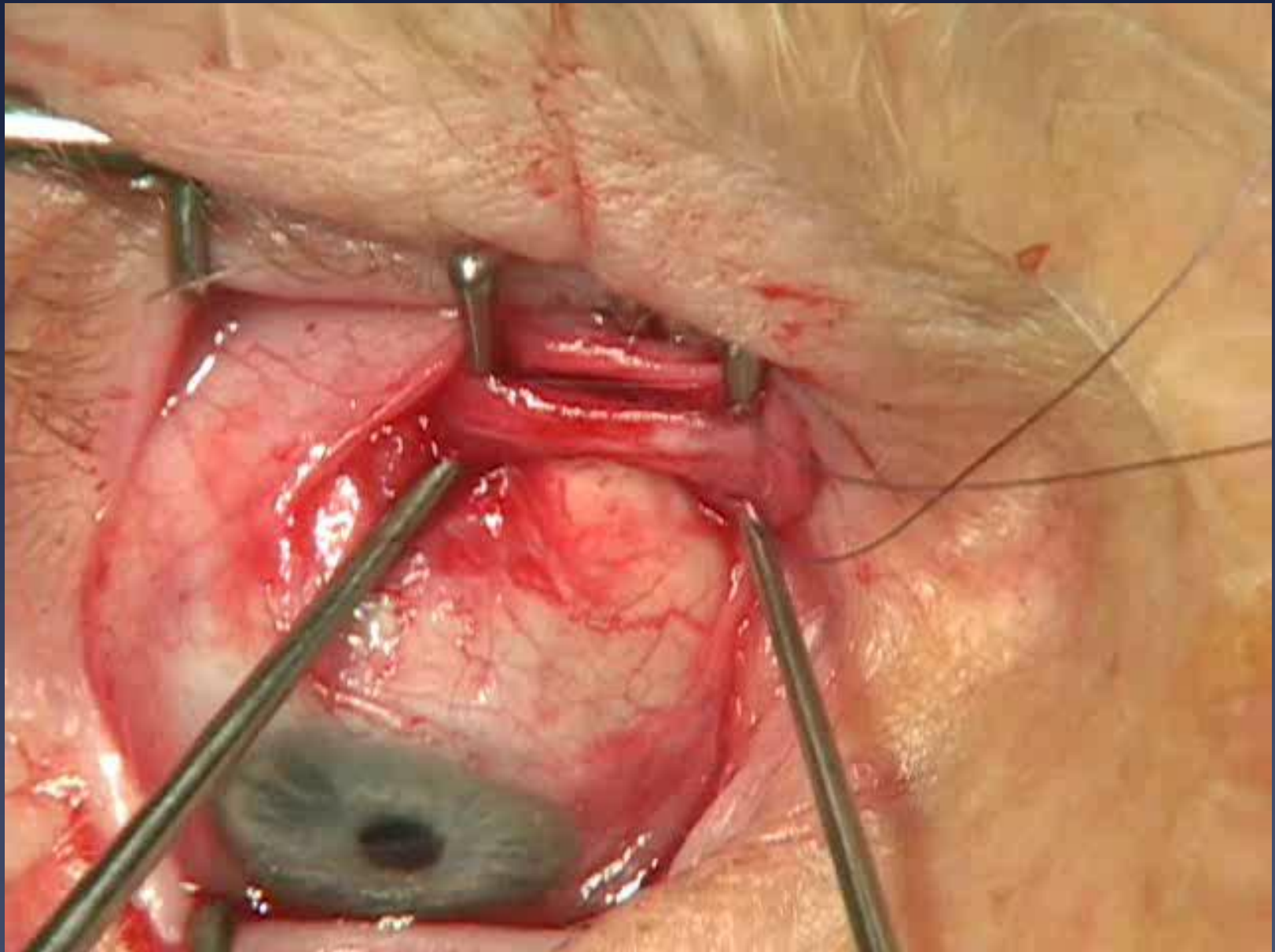
★ *Surgical success:*

- Elimination of oscillopsia.
- Minimal iatrogenic side effects.

Methods: *Surgery – pt #2*



Methods: *Surgery – pt #2*



Results (Post-op): Pt #1

Oscillopsia	Trace
Headache	Absent
Diplopia	On extreme upgaze
Other symptoms	None
BCVA	OD 20/20 , OS 20/20
Stereo	Normal
EOM	Transient Brown syndrome OD (Absent at 1yr post-op)
Ocular alignment	Ortho
Torsion	Absent

Results (Post-op): Pt #1



RIO N



Results: Pt #2

Oscillopsia	Absent
Headache	Absent
Diplopia	Downgaze at distance and near
Other symptoms	None
BCVA	OD:20/20 , OS: 20/20
Stereo	Normal
EOM	Transient Brown syndrome OD (+2 at 2 months)
Torsion	Absent

Results: Pt #2 (2 months post op)

No torsion



RHoT 5 PD



RIO -2

RHoT 8 PD



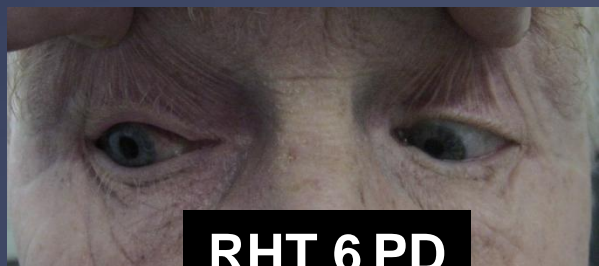
Ptosis OD



RHT 0 PD



RHoT 2 PD



RHT 6 PD



RHT 10 PD



RSO N

RHT10 PD

Discussion

- * 1970-2009: 9 publications on surgery for SOM
- * Total of 30 cases.
- * Permanent resolution of SOM in 29/30 cases.
- * Secondary surgery performed in 4 cases.

Discussion

Results of extraocular muscle surgery for superior oblique myokymia

Swati Agarwal, MD, and Burton J. Kushner, MD

A retrospective review of 14 consecutive patients undergoing superior oblique tenectomy and inferior oblique myectomy between 1976 and 2008.

Superior oblique tenectomy and inferior oblique myectomy effectively eliminate oscillopsia associated with superior oblique myokymia but result in diplopia in downgaze in approximately 36% of patients, which may cause symptoms in patients who require a bifocal for near work. (J AAPOS 2009;13:472-476)

Discussion

* *In our 2 operated patients:*

- ★ Pt #1 had almost complete resolution of oscillopsia and a transient Brown syndrome which resolved completely
- ★ Pt #2 has a persistent post-op Brown syndrome, a hypertropia in downgaze and a mild ptosis

Conclusions

- * Our findings (2 cases) are consistent with published reports of the effectiveness of strabismus surgery in eliminating the oscillopsia associated with SOM.
- * The benefits may be tempered by untoward iatrogenic changes in ocular alignment and motility.

Conclusions

- * Since surgery for SOM involves irreversible surgical changes, details of possible iatrogenic sequelae should be thoroughly discussed with the patient prior to surgery.
- * Surgery should only be performed when symptoms are debilitating and medical treatment has failed.

References

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