Amaurosis fugax

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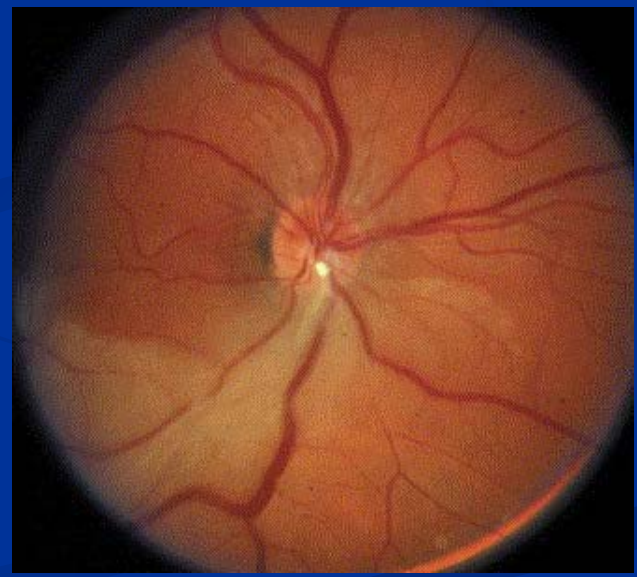


Visual problems in the neurovascular clinic

- Amaurosis fugax
- Complete visual loss
- Diplopia
- Visual field defects
- Retinal artery occlusions
- Retinal vein occlusions

Differential Diagnosis of Transient Monocular Blindness

- Embolism
- Increased intracranial pressure
- Orbital apex mass
- Optic Neuritis
- Giant cell arteritis
- Migraine
- Anterior ischaemic optic neuropathy
- Retinal Migraine
- Increased viscosity

Classification of TMB

- TMB I Transient retinal ischaemia
- TMB II Retinal vascular insufficiency
- TMB III Vasospasm
- TMB IV Associated with antiphospholipid antibody

Wray SH in Stroke Syndromes ed Bogousslavsky J and Caplan L. 2001

TMB IV

Onset	Abrupt
Visual Field	All or partial
Visual loss	May alternate between eyes
Duration	Any duration
Recovery	Complete
Pain	No
Mechanism	Antiphospholipid syndrome

Wray SH in Stroke Syndromes ed Bogousslavsky J and Caplan L. 2001

TMB III

Onset	Abrupt
Visual Field	All or progressive contraction
Visual loss	May spare fixation, photopsia, scintillating sparkles
Duration	Minutes
Recovery	Usually complete
Pain	Often
Mechanism	Vasospasm, Migraine

Wray SH in Stroke Syndromes ed Bogousslavsky J and Caplan L. 2001

International Headache Society definition of Retinal Migraine

Box 1: Diagnostic criteria for retinal migraine and migraine without aura[1]

Retinal migraine

A. At least 2 attacks fulfilling criteria B and C

B. Fully reversible monocular positive and/or negative visual phenomena (e.g., scintillations, scotomata or blindness) confirmed by examination during an attack or (after proper instruction) by the patient's drawing of a monocular field defect during an attack

C. Headache fulfilling criteria B-D for migraine without aura that begins during the visual symptoms or follows them within 60 minutes

D. Normal ophthalmologic examination between attacks

E. Not attributed to another disorder

Migraine without aura

A. At least 5 attacks fulfilling criteria B-D

B. Headache attacks last 4-72 hours (untreated or unsuccessfully treated)

C. Headache has at least 2 of the following:
   - Unilateral location
   - Pulsating quality
   - Moderate or severe pain intensity
   - Aggravation by or causing avoidance of routine physical activity (e.g., walking or climbing stairs)

D. During headache, at least 1 of the following occurs:
   - Nausea and/or vomiting
   - Photophobia and phonophobia

E. Not attributed to another disorder

Clinical Features of Retinal Migraine

- Age < 40 years
- Prior History of Migraine
- Personal or family history of full recovery after prolonged visual loss
- Recurrent transient episodes in a single day
- Negative diagnostic work up for other causes of transient visual loss.

TMB II

Onset	Less rapid
Visual Field	All or Partial
Visual loss	Loss of contrast vision, photopsia, sunlight provoked
Duration	Minutes or Hours
Recovery	Complete
Pain	Rare
Mechanism	Carotid occlusive disease

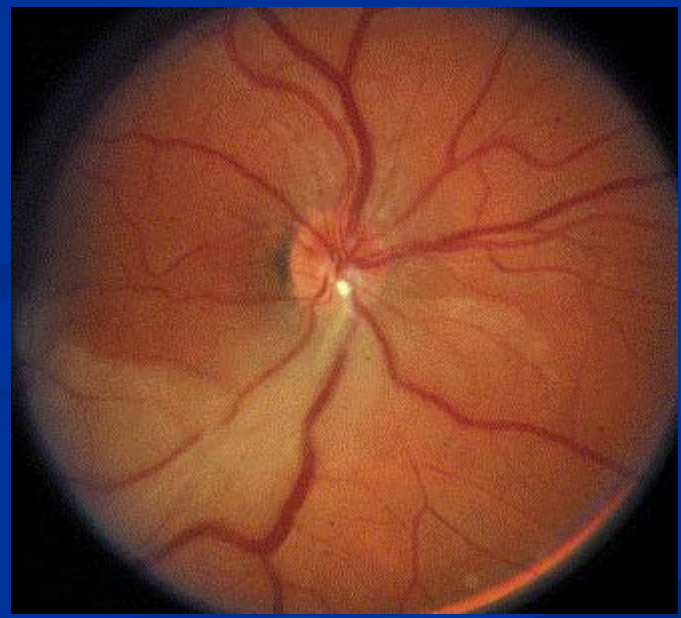
Wray SH in Stroke Syndromes ed Bogousslavsky J and Caplan L. 2001

TMB I

Onset	Abrupt
Visual Field	All or Partial
Visual loss	May black out completely
Duration	Seconds or minutes
Recovery	Complete
Pain	No
Mechanism	Embolus or arteritis

Wray SH in Stroke Syndromes ed Bogousslavsky J and Caplan L. 2001

- Hollenhorst Plaques



Risk Factors for Transient Monocular Blindness

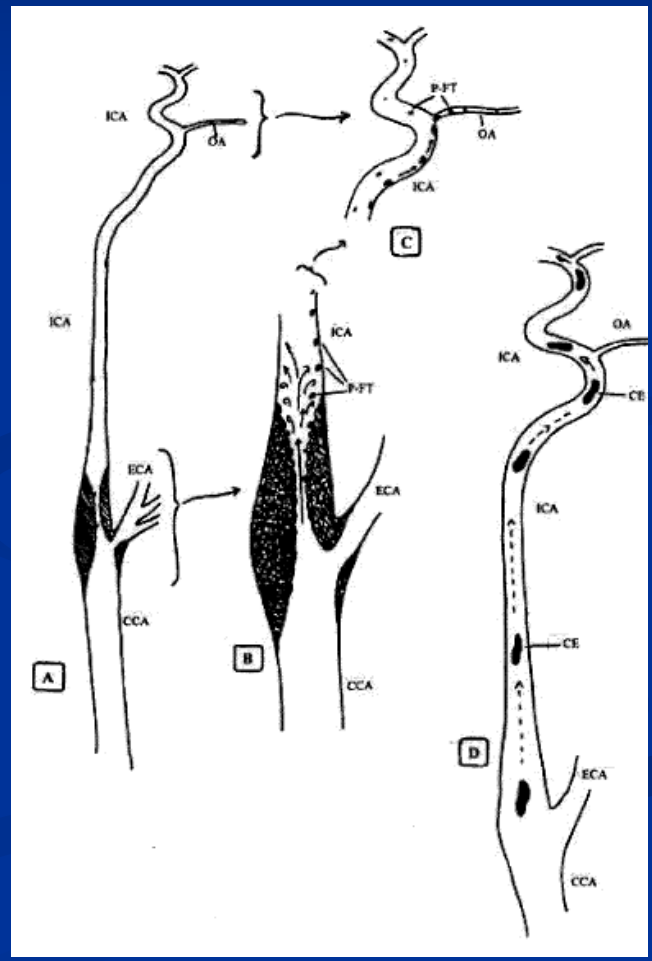
- Hypertension
- Cigarette Smoking
- Diabetes

- TIA more likely to be in AF than Eye events
- Eye events more likely to have significant Carotid Artery Stenosis than TIA

Mead et al. Stroke: 2002; 33; 2383

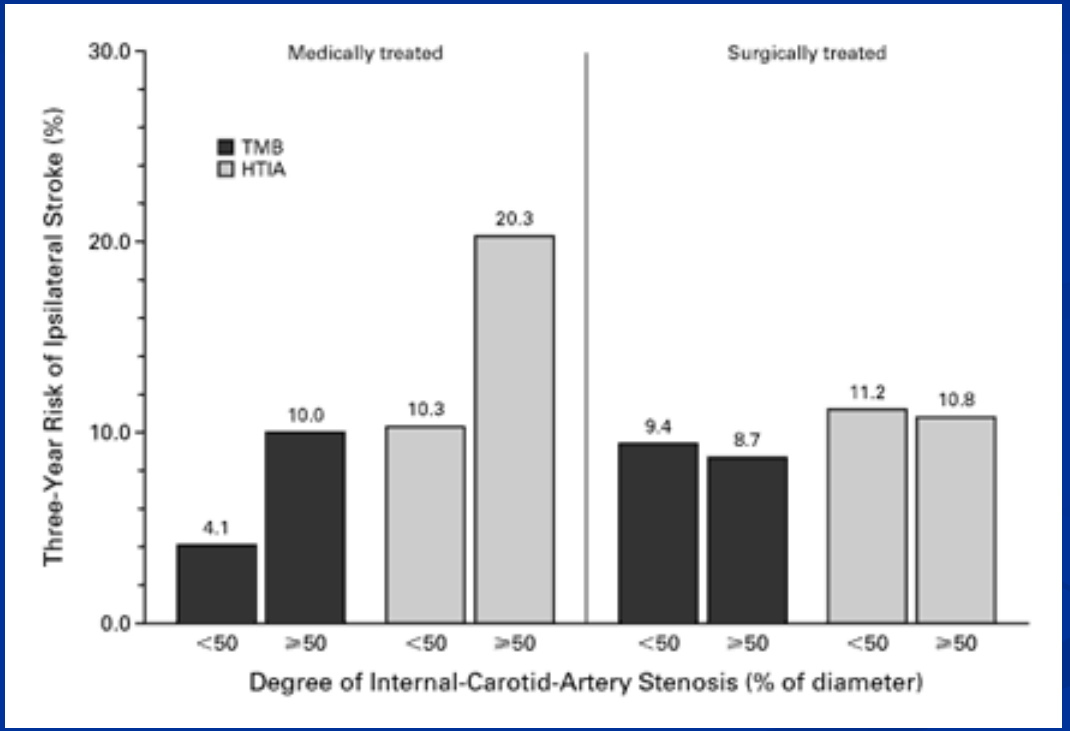
Hypothesis

- Smaller emboli from Carotid Artery nay be preferentially carried to Ophthalmic Arteries
- Larger emboli from heart go to MCA



Mead et al. Stroke: 2002; 33; 2383

3 year risk of Ipsilateral stroke among patients with TMB and Hemispheric TIA



N Engl J Med 2001; 345:1084-90

Distribution of the territory of strokes following TMB

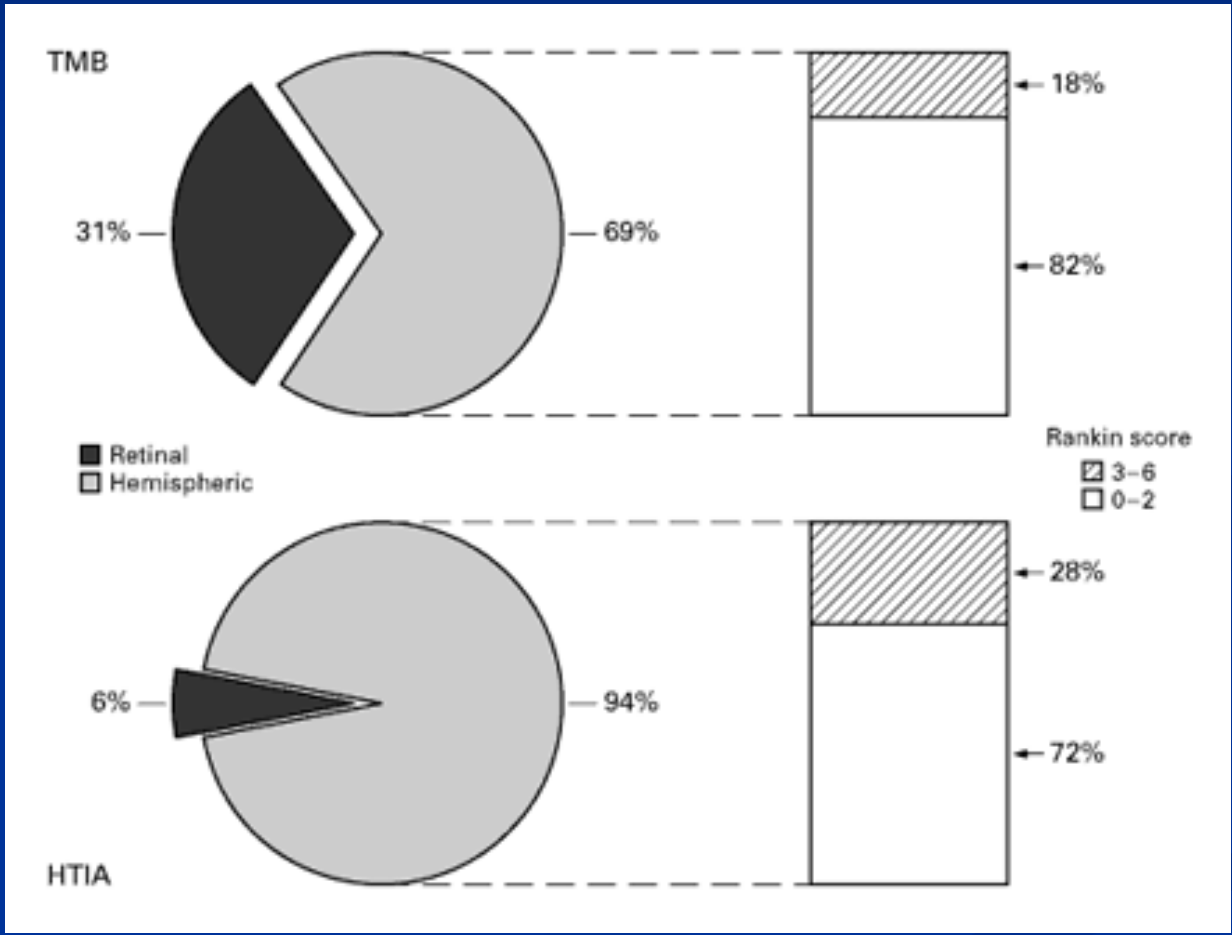


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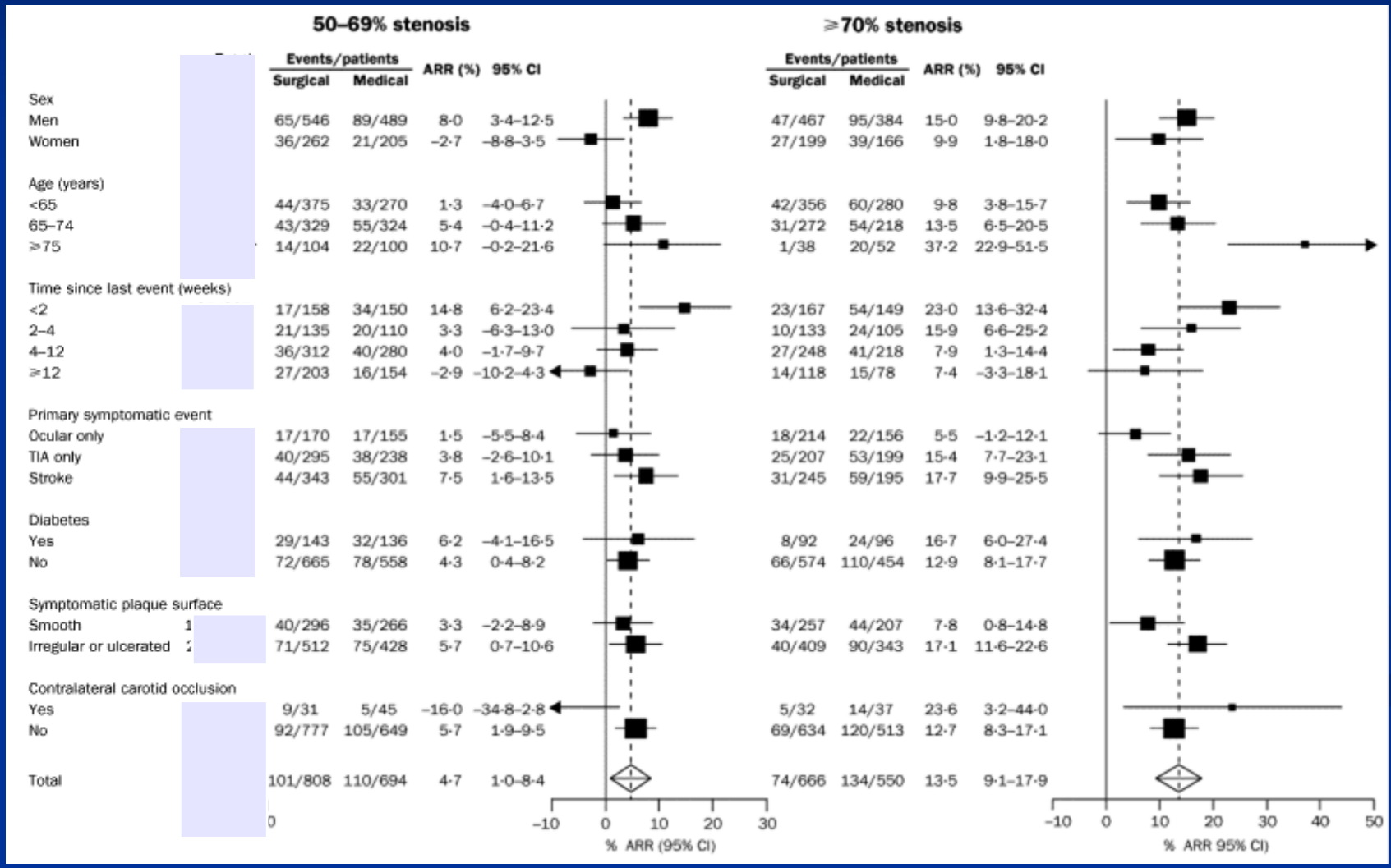
TABLE 3. THREE-YEAR RISK OF IPSILATERAL STROKE AND THE NUMBER NEEDED TO TREAT ACCORDING TO AN ANALYSIS OF 360 PATIENTS WITH TRANSIENT MONOCULAR BLINDNESS AND STENOSIS OF AT LEAST 50 PERCENT OF THE DIAMETER OF THE INTERNAL CAROTID ARTERY, STRATIFIED ACCORDING TO THE CATEGORY OF RISK.*

VARIABLE	NO. OF PATIENTS		THREE-YR RISK OF IPSILATERAL STROKE		ABSOLUTE REDUCTION IN RISK (95% CI)	NO. NEEDED TO TREAT AT THREE YEARS†
	MEDICAL	SURGICAL	MEDICAL	SURGICAL		
			percent			
All patients with transient monocular blindness	174	186	12.3	7.2	5.1 (−0.4 to 10.6)	20
Category of risk						
Low (0 or 1 risk factor)	56	51	1.8	4.0	−2.2 (−8.7 to 4.3)	NA
Moderate (2 risk factors)	67	83	12.3	7.4	4.9 (−4.9 to 14.7)	20
High (≥3 risk factors)	51	52	24.2	9.9	14.3 (−0.2 to 28.8)	7

- Male sex
- Age >75
- History of TIA or stroke
- Intermittent claudication
- 80-94% stenosis
- Absence of collaterals on angiography

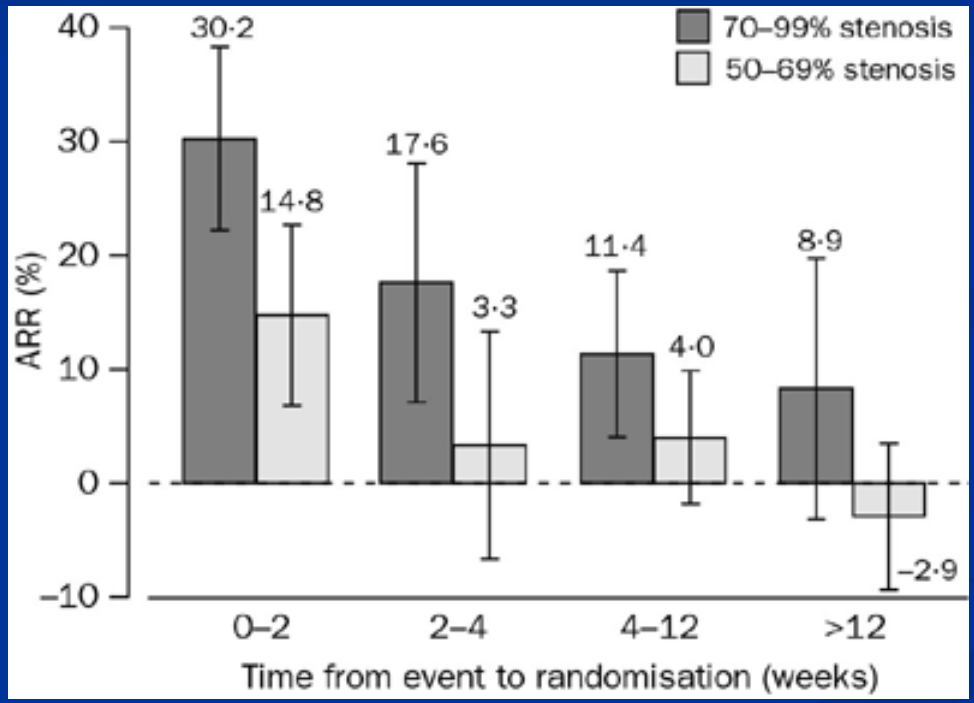
N Engl J Med 2001; 345:1084-90

Absolute reduction with surgery in 5 year cumulative risk of ipsilateral stroke or stroke or death within 30 days of surgery



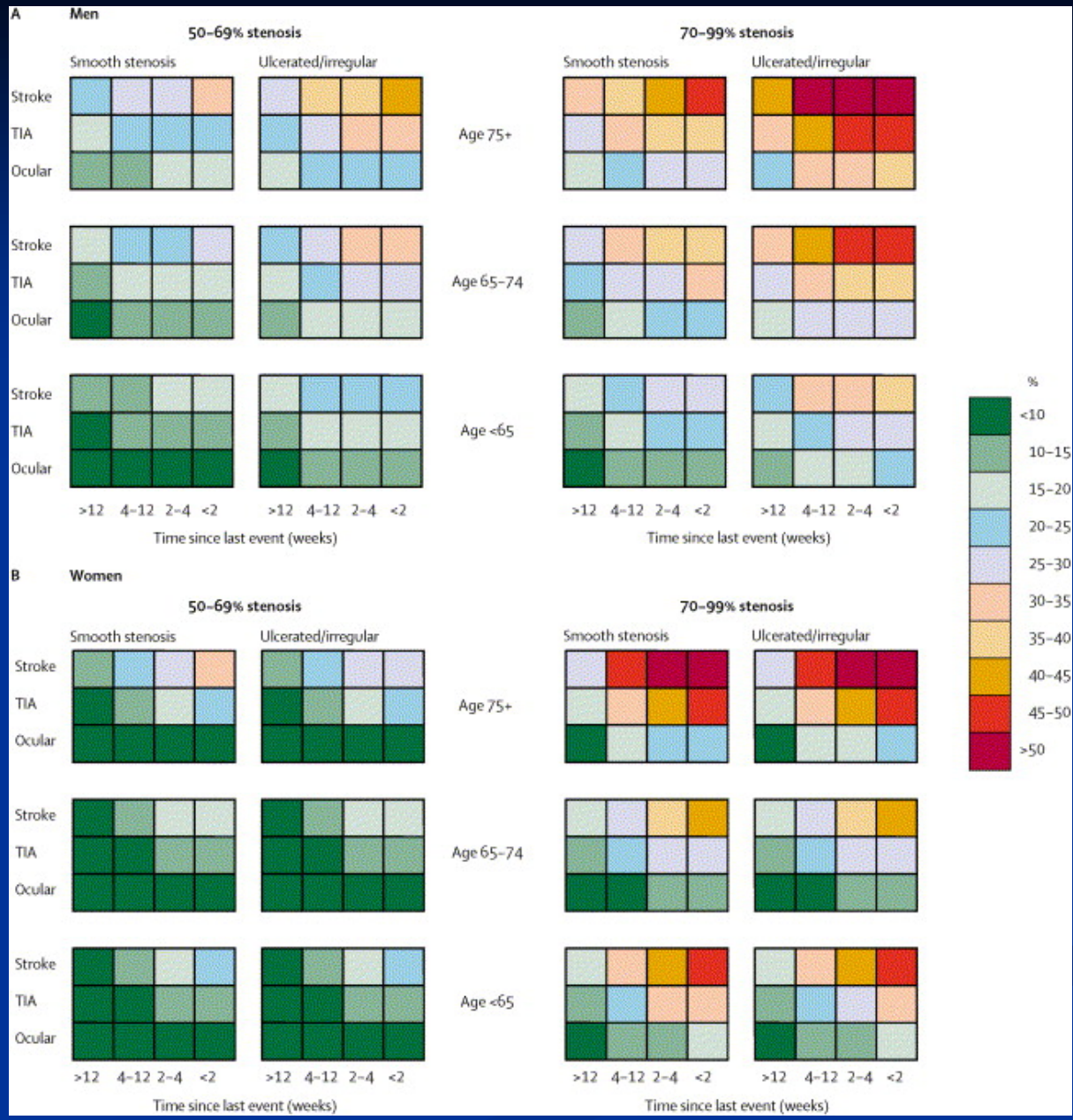
Rothwell PM Lancet 2004; 363:915

Absolute risk reduction from Carotid Endarterectomy



Rothwell et al. *Lancet* 2004;363: 915-24

- Table of Predicted Absolute Risk of ipsilateral stroke on medical treatment with recently symptomatic carotid stenosis



Rothwell PM *Lancet* 2005; 365: 256

Summary

- Multiple symptoms of Amaurosis Fugax
- Differential diagnosis
- Consider carefully which patients are referred for carotid endarterectomy
- Need a new clinical trial comparing current drug treatment with carotid endarterectomy