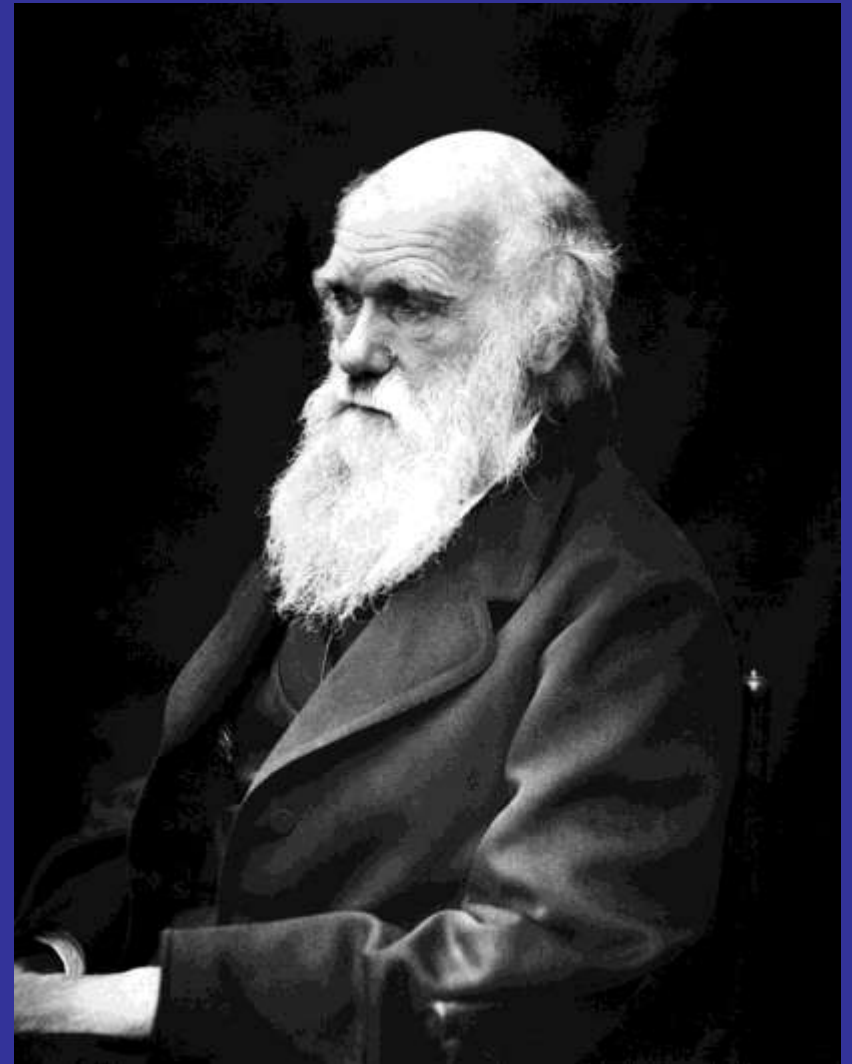


Detection & Management of Retinal Emboli in a County Diabetes Retinal Screening Programme – an audit

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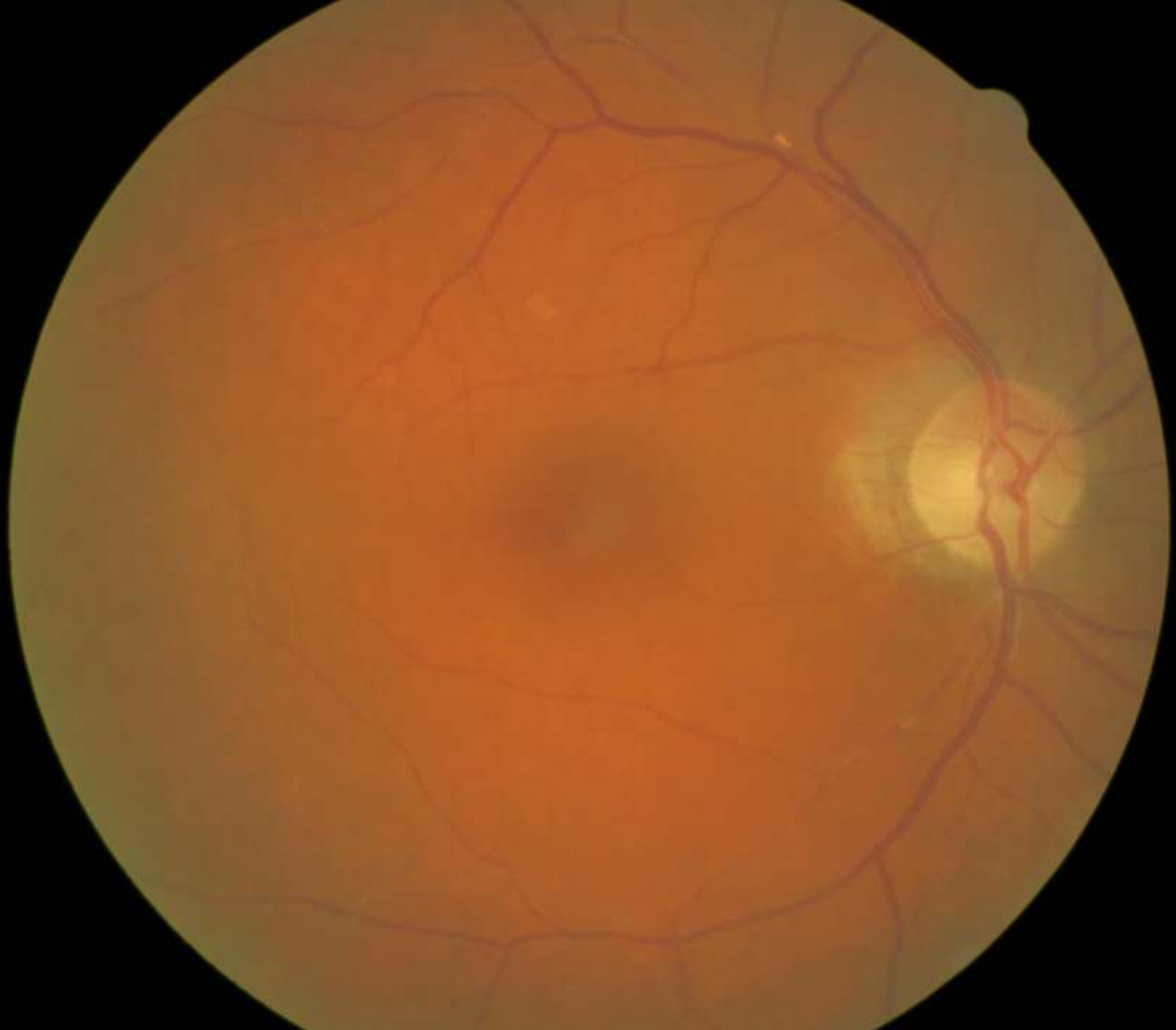
Conclusion

- A systematic approach to evaluation of patients with retinal emboli (RAE) is another step in vascular risk management of patients with DM
- Moderate to severe carotid artery disease are a common finding amongst patients with RAE
- Limited information to recommend surgery
- Whether or not this approach affects long term outcomes remains to be established

Background

- Retinal arteriolar emboli (RAE) are detected in 1.3 – 1.4% of the adult population¹
- Associated with an excess risk of all-cause and stroke related mortality.^{2,3}
- May originate from atheromatous carotid arteries or degenerate cardiac valves
- Incidental detection during diabetic retinal screening allows risk management and surgical intervention where appropriate







15-Feb-2010 27-Feb-2009 04-Jan-2008 29-Nov-2006	Temporal (Right) Temporal (Left) Nasal (Right) Nasal (Left)	<input type="checkbox"/> Print <input type="checkbox"/> Save <input type="checkbox"/> Refresh <input type="checkbox"/> Lock view	Zoom 78	Add to pool...
15-Feb-2010 27-Feb-2009 04-Jan-2008 29-Nov-2006	Temporal (Right) Temporal (Left) Nasal (Right) Nasal (Left)	<input type="checkbox"/> Print <input type="checkbox"/> Save <input type="checkbox"/> Refresh <input type="checkbox"/> Lock view	Zoom 122	Add to pool...
Brightness <input type="text"/>		<input checked="" type="checkbox"/> Red-free		OK

Process

- Images of incidentally discovered RAE are scrutinised by an experienced clinician (AFM)
- Letter sent to the primary care informing
 - Implications of the findings
 - Pharmacological preventative therapy
 - Need for carotid doppler sonography (+/- surgical referral), where appropriate

Results

- Between January 2008 and August 2009, 16532 patients attended for retinal screen
- 66 patients identified with RAE (median age 72 years; range 45 – 90)
- 23 (38%) classified as cholesterol or platelet-fibrin emboli. 15(23%) had calcific. Rest (39%) unclassified.
- 25 (42%) had carotid doppler studies

Results

- 13(23%) patients had a previous history of cerebrovascular disease.
- Further 19(30%) had a history of IHD.
6(9%) had both.
- 80% had antiplatelet/anticoagulant therapy (ALL patients with history of stroke AND all who had carotid dopplers)

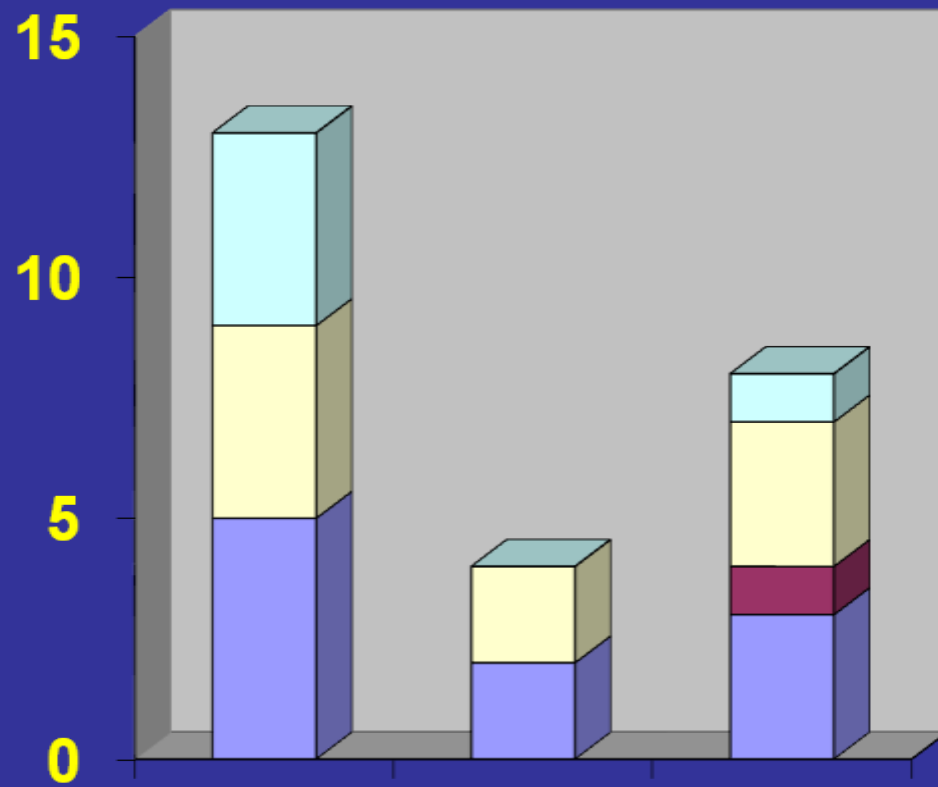
Results

Carotid Doppler Findings (N=25)

Degree of stenosis	Number (%)
Mild (0 – 30%)	13 (52)
Moderate (30 – 70%)	4 (16)
Severe (>70%)	8 (32)

Severe Stenosis (N=8)

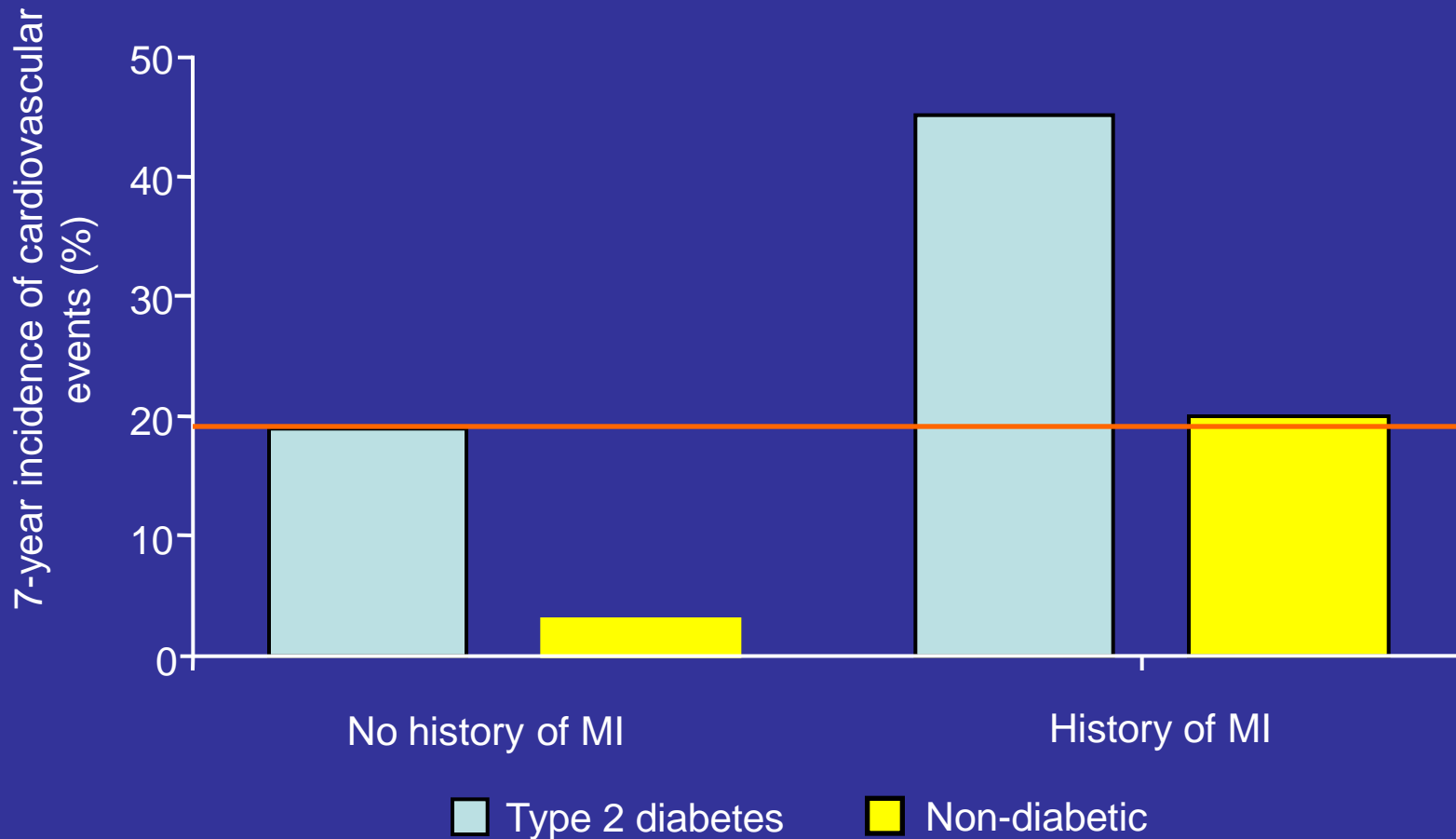
- 2 patients had endarterectomies (1 stroke post procedure)
- 1 patient died
- 1 had bilateral occlusion (no further evaluation)
- 4 patients <75 years had no intervention (1 with history of CVA)



Discussion

- Our numbers are smaller than those in population prevalence studies
 - incidental discovery
 - number of fields
- 80% on antithrombotic treatment.⁴
- 50% patients with a severe carotid artery stenosis did not have intervention (reasons unclear)

CV risk in Type 2 diabetes approaches the risk in patients with a history of MI



Diabetes – Interventions

- Steno 2 Trial – Aggressive multifactorial target-driven interventions reduce CVD in high risk individuals by 50%
- Comparable (Alphabet) Strategy (developed in George Elliott Hospital showed comparable results).

A

B

C

D

E

F

G

Diabetes – Interventions

- Steno 2 Trial – Aggressive multifactorial target-driven interventions reduce CVD in high risk individuals by 50%
- Comparable (Alphabet) Strategy (developed in George Elliott Hospital showed comparable results).
 - Advice
 - Blood pressure
 - Cholesterol
 - Diabetes control
 - Eye screening
 - Foot Screening
 - Guardian drugs

Diabetes – Interventions

- Steno 2 Trial – Aggressive multifactorial target-driven interventions reduce CVD in high risk individuals by 50%
- Comparable (Alphabet) Strategy (developed in George Elliott Hospital showed comparable results).

Advice

Blood pressure

Cholesterol

Diabetes control

Eye screening

Foot Screening

Guardian drugs – e.g. Aspirin

Carotid Artery Stenosis (Asymptomatic Vs Symptomatic)

- Good evidence that CEA beneficial in symptomatic patients¹
- Evidence of benefit in asymptomatic patients limited²
- Limited information for patients with DM
 - ? higher rates of peri-operative complications³
- Very little information for patients with RAE

Current Practice

- All patients invited to diabetes centre for
 - Clinical evaluation
 - Education
 - Investigation
 - Follow up
- Follow up
- Audit loop

Conclusion

- A systematic approach to evaluation of patients with RAE is another step in vascular risk management of patients with DM
- Moderate to severe carotid artery disease are a common finding amongst patients with RAE
- Limited information to recommend surgery
- Whether or not this approach affects long term outcomes remains to be established