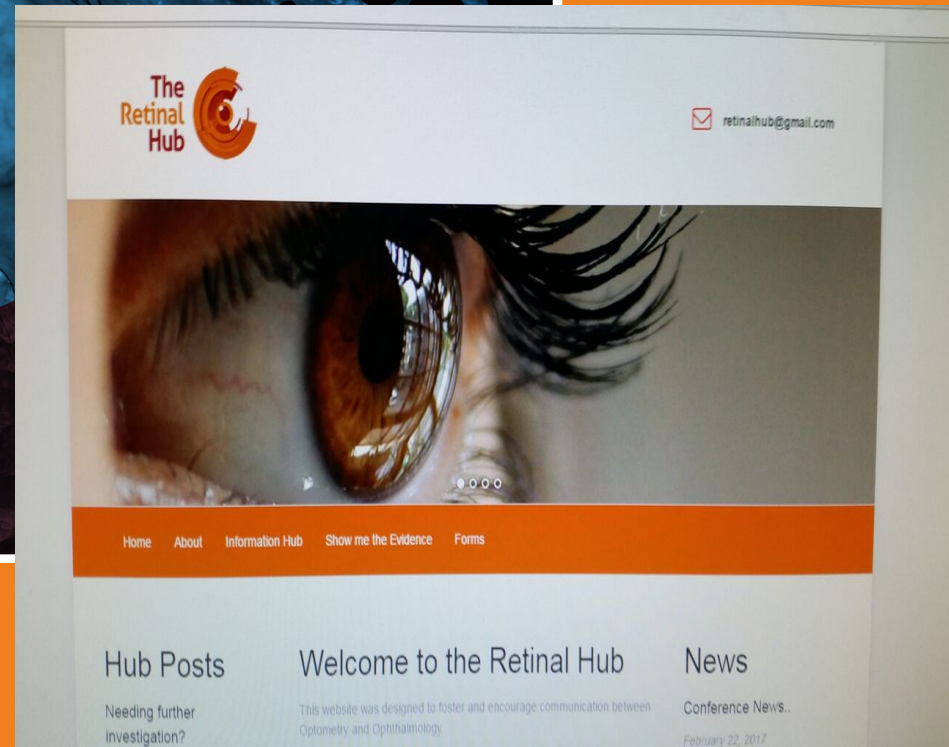


Vision threatening Eye disease

Dr Christolyn Raj
FRANZCO MBBS MMed



Global projections for diabetes

Millions of cases in 2015 (prevalence)
Millions of cases in 2040 (prevalence)
% increase

**North America
& Caribbean**
44.3 (12.9%)
60.5 (14.7%)
+37%

**South & Central
America**
29.6 (9.4%)
48.8 (11.9%)
+65%

**Middle East &
North Africa**
35.4 (9.1%)
72.1 (11.4%)
+104%

Africa
14.2 (3.2%)
34.2 (6.0%)
+140%

Europe
59.8 (9.1%)
71.1 (7.1%)
+19%

Western Pacific
153.0 (9.3%)
215.0 (11.9%)
+41%

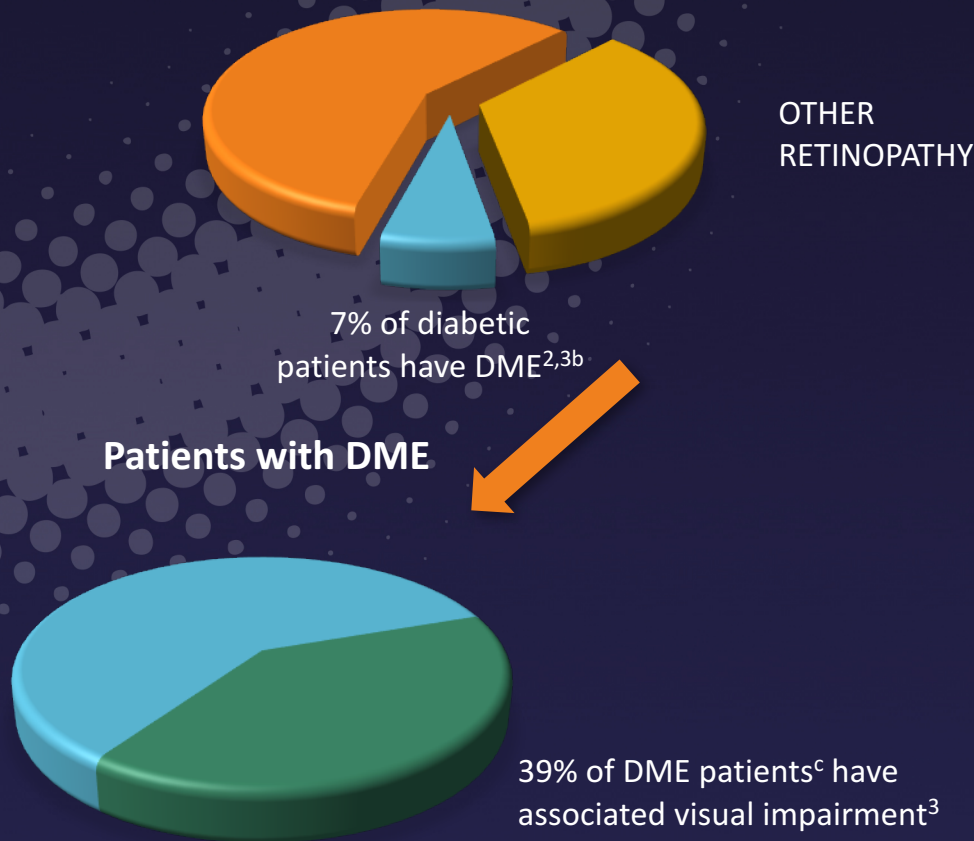
South-East Asia
78.0 (8.5%)
140.0 (10.7%)
+79%

2015: 415 million

2040: 642 million

55% global increase by 2040

DIABETIC MACULOPATHY : the most prevalent cause of visual impairment in patients with diabetes



Risk factors for developing DME:



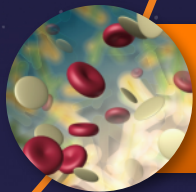
Long duration of diabetes^{1,2}



Poor blood glucose control¹⁻³



Hypertension^{1,3}

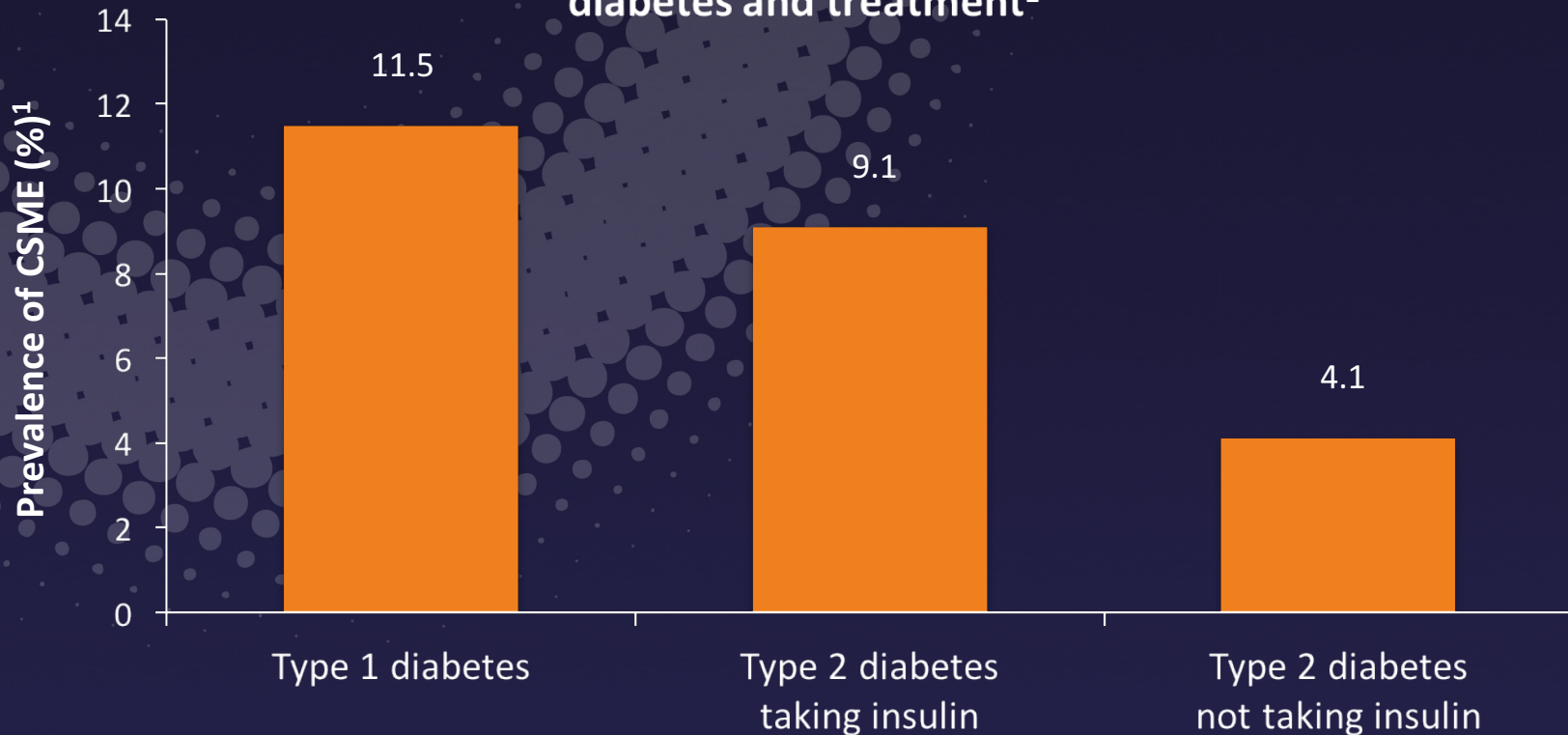


High cholesterol^{1,2}

DME, diabetic macular edema

Prevalence of visual impairment due to DME increases with type and management of diabetes

DME prevalence differs according to type of diabetes and treatment¹



The 25-year cumulative incidences of DME and CSME were 29% and 17%, respectively²

- Accord/UKPDS Studies

- FIELD study



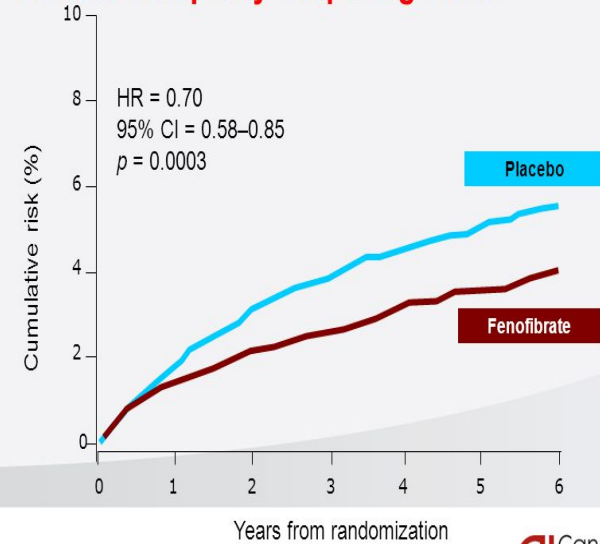
The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Effects of Intensive Blood-Pressure Control in Type 2 Diabetes Mellitus

The ACCORD Study Group
N Engl J Med 2010; 362:1575-1585 | April 29, 2010

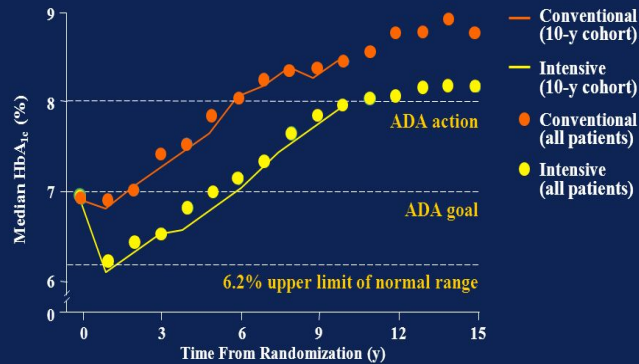
FIELD: Retinopathy Requiring Laser



FIELD Study Investigators. Lancet 2005; 366 (9500): 1849-61
<http://guidelines.diabetes.ca/1-000/PARTING-036-0421-diabetes.ca>



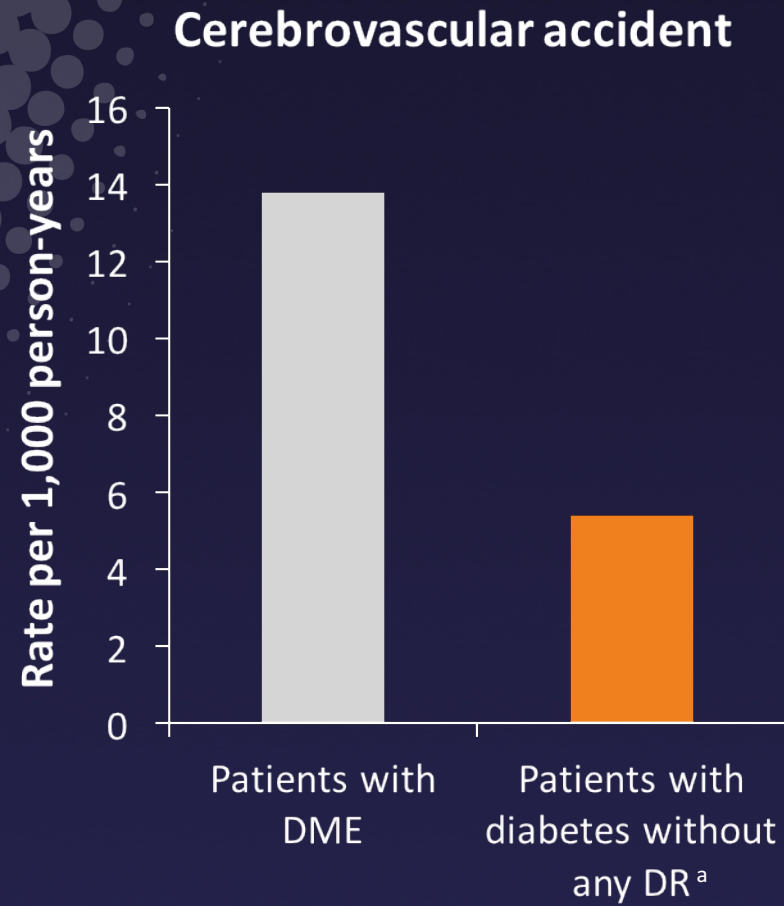
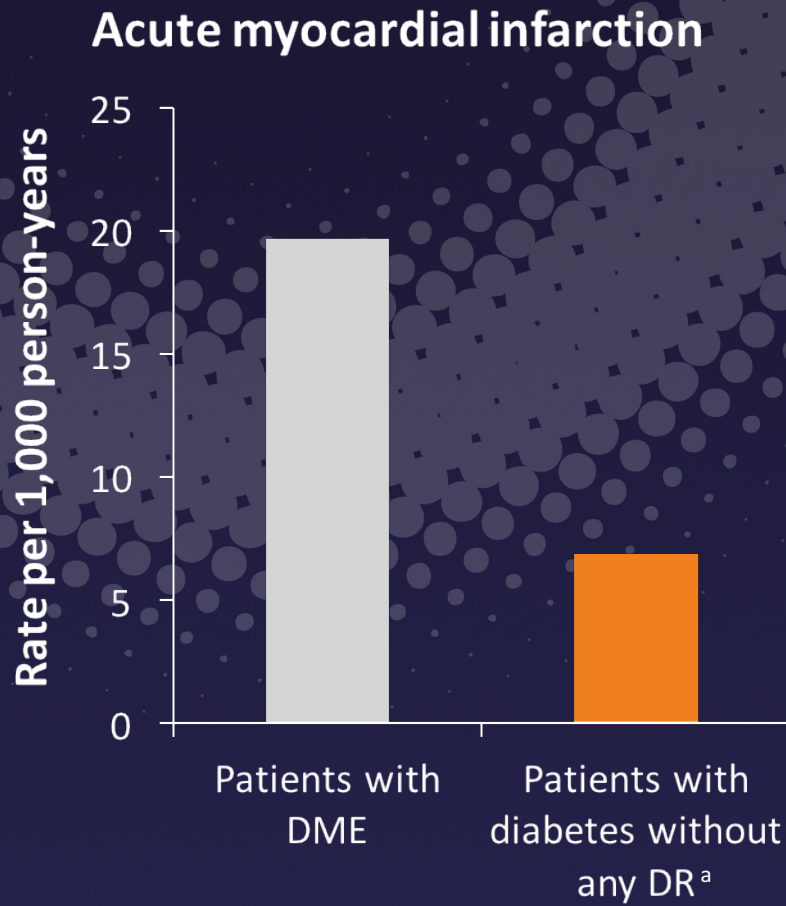
UKPDS MAIN STUDY Effect of Treatment on HbA_{1c}



Adapted from UK Prospective Diabetes Study (UKPDS) Group. Lancet. 1998;352:837-53.

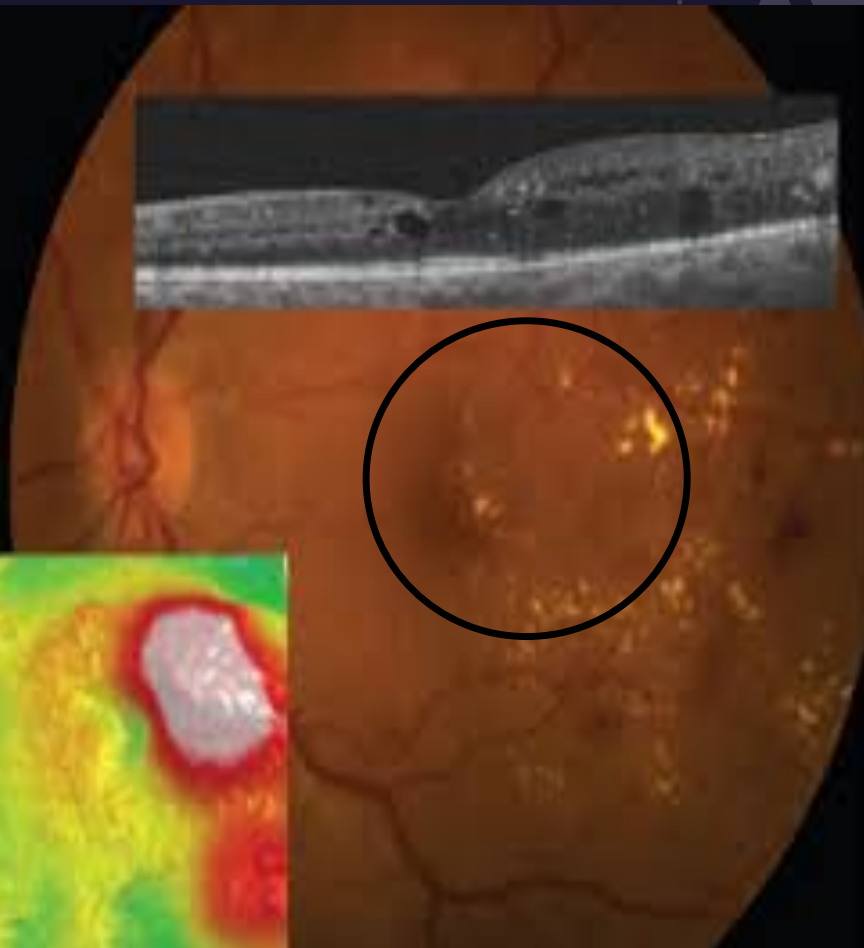


Event rates of stroke and cardiovascular disease are higher in diabetics with DME compared with diabetics without any DR

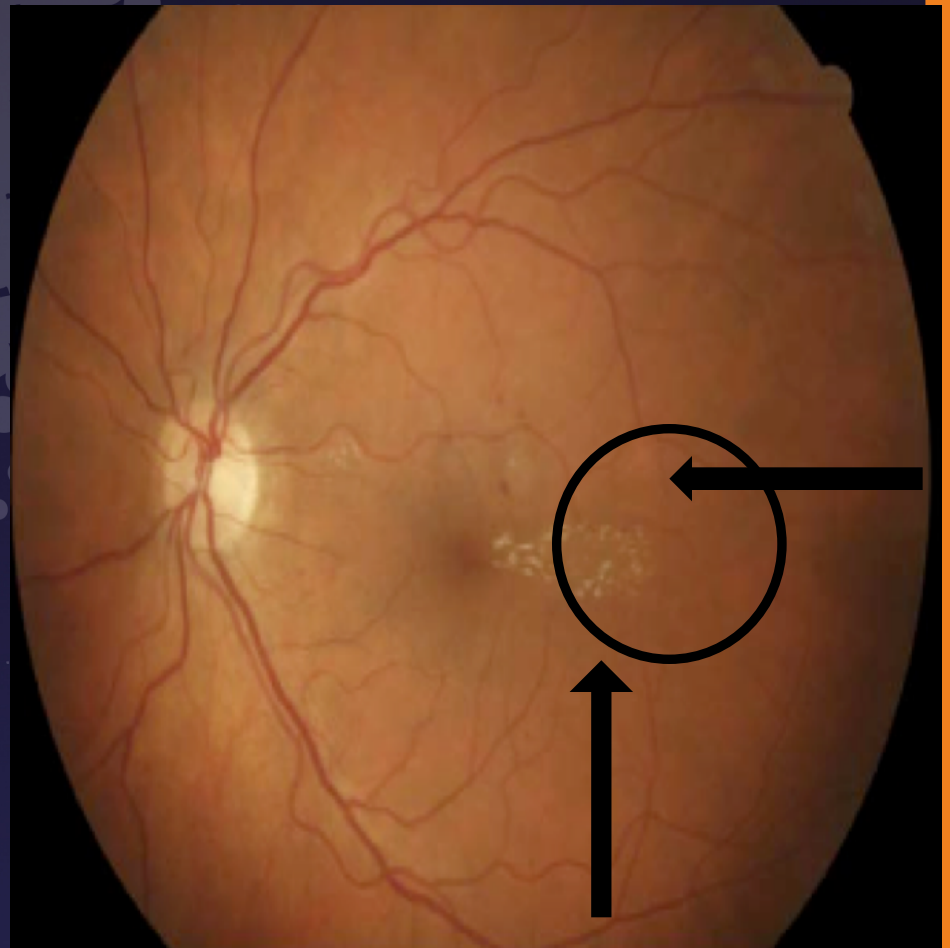


^aAge and gender matched diabetes subjects without ophthalmic manifestations, retinal disorders, or vitreous hemorrhage
DME, diabetic macular edema; DR, diabetic retinopathy

CENTRE-INVOLVING MACULOPATHY



NON-CENTRE INVOLVING MACULOPATHY



Who needs a referral to ophthalmology ?

CENTRE-INVOLVING

DECREASED VISION

ANY HARD EXUDATES

CATARACT

NON-CENTRE INVOLVING

HARD EXUDATE

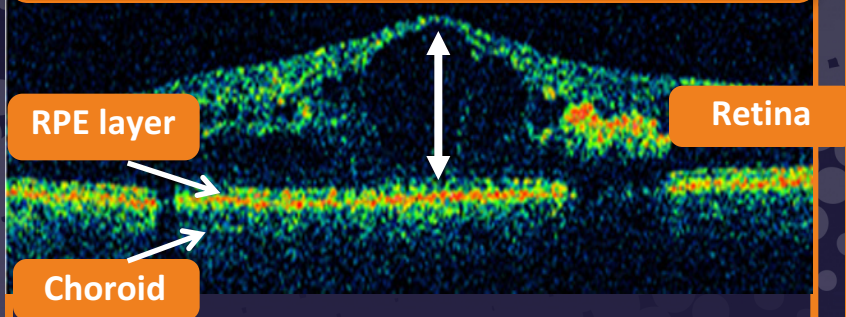
POOR VISION IN FELLOW EYE

POOR BSL CONTROL

CO-MANAGING DIABETIC MACULOPATHY

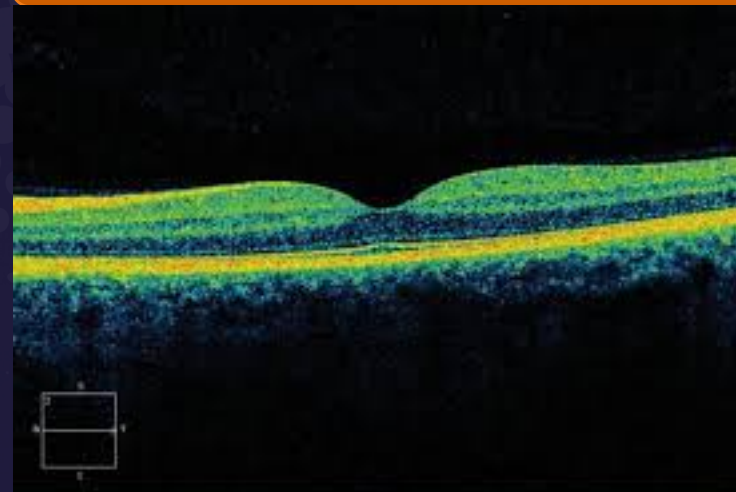
the ideal scenario...

BEFORE TREATMENT



- Retinal swelling (thickening)
- Cystoid macular edema
- Serous retinal detachment
- Vitreomacular traction
- Hard exudates

AFTER TREATMENT



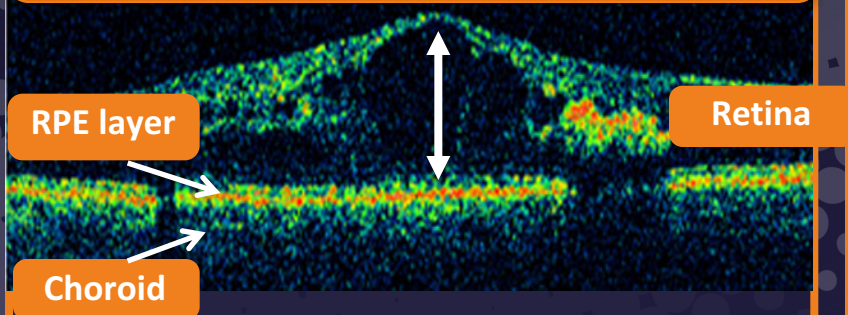
- VISION IMPROVEMENT
- ANATOMY RESTORED

BRB, blood–retinal barrier; DME, diabetic macular edema; OCT, optical coherence tomography; RPE, retinal pigment epithelium

CO-MANAGING DIABETIC MACULOPATHY

the unexpected scenario

BEFORE TREATMENT



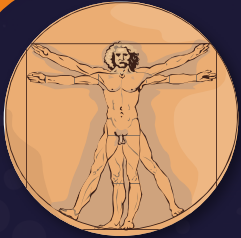
- Retinal swelling (thickening)
- Cystoid macular edema
- Serous retinal detachment
- Vitreomacular traction
- Hard exudates

AFTER TREATMENT

- INITIAL VISUAL IMPROVEMENT THEN RECURRENCE OF MACULOPATHY
- MINIMAL VISUAL IMPROVEMENT
- OTHER PATHOLOGY DEVELOPS

BRB, blood–retinal barrier; DME, diabetic macular edema; OCT, optical coherence tomography; RPE, retinal pigment epithelium

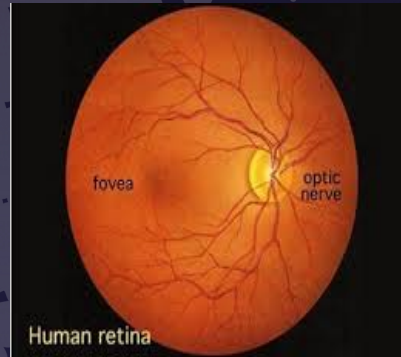
Recurrence of DME despite initial treatment: “Adjusting the recipe “



Systemic factor control

Aim: prevent retinopathy and its progression

- Blood glucose control
- Blood pressure control
- Blood lipid control



Ocular treatments

Aim: prevent vision loss and improve vision

- **Anti-VEGF therapies:** improve VA^{4,5}
- **Laser treatment:** MAY stabilizes vision

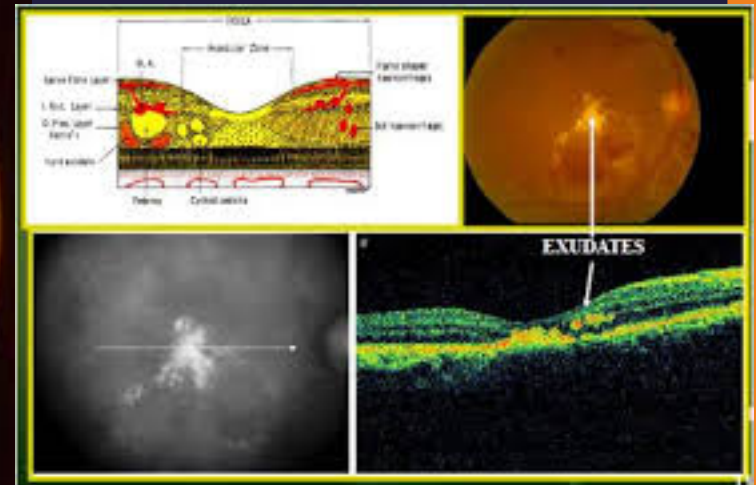
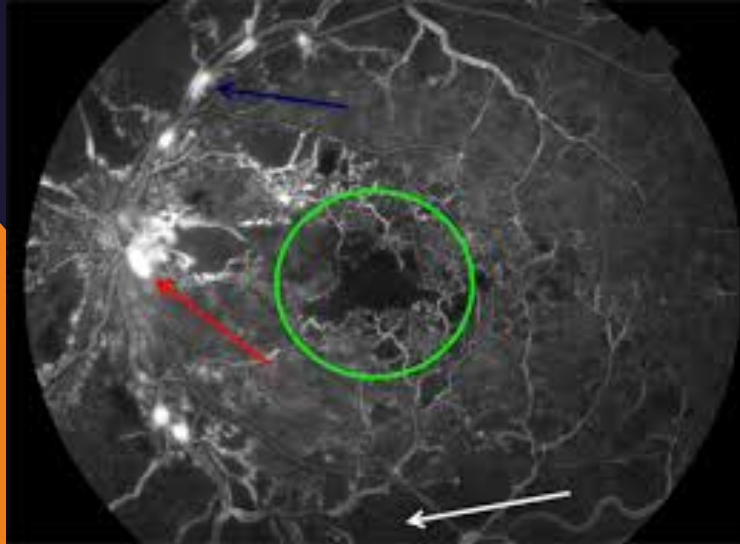
TOGETHER WITH

Deterioration of vision despite ongoing treatment

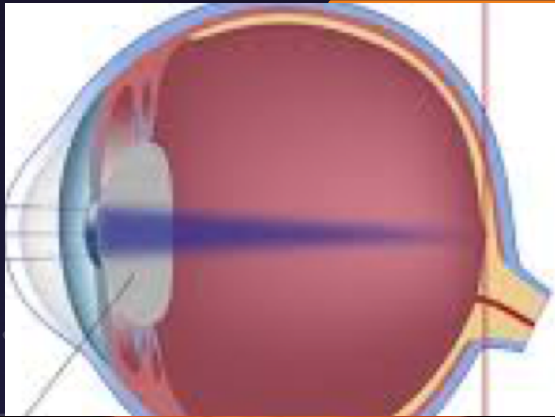
“Stop and re-assess...”

MACULA
ISCHEMIA

EXUDATE
DEPOSITION



VISION IMPAIRMENT



event

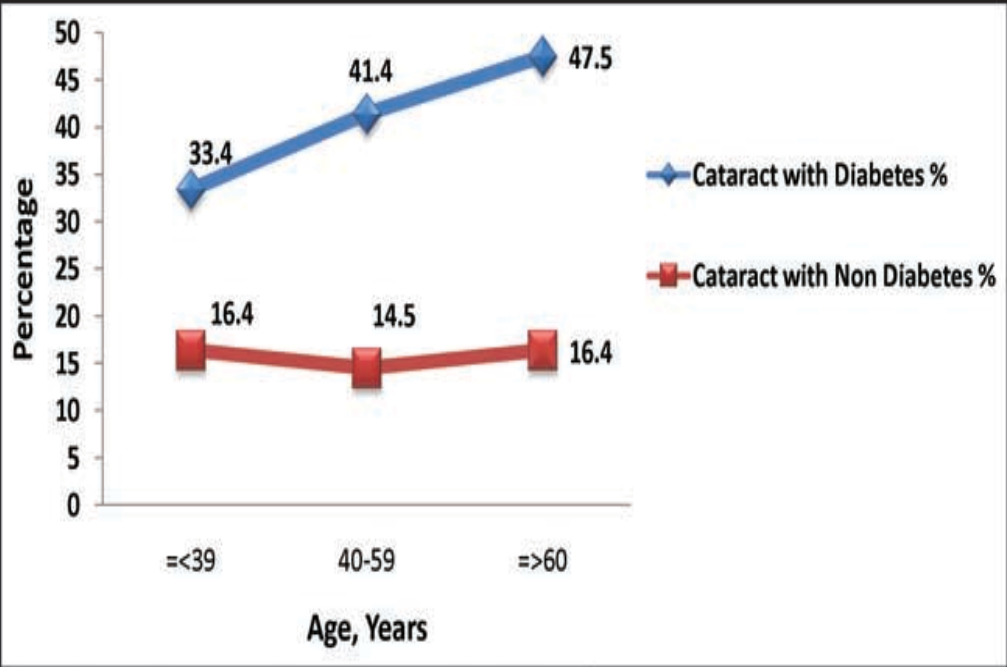


Figure-1: Relationship of cataract with Age in Diabetics and Non-Diabetics.

Cataract formation decreases vision and obscures view of the retina for examination

Increased risk of maculopathy following surgery

