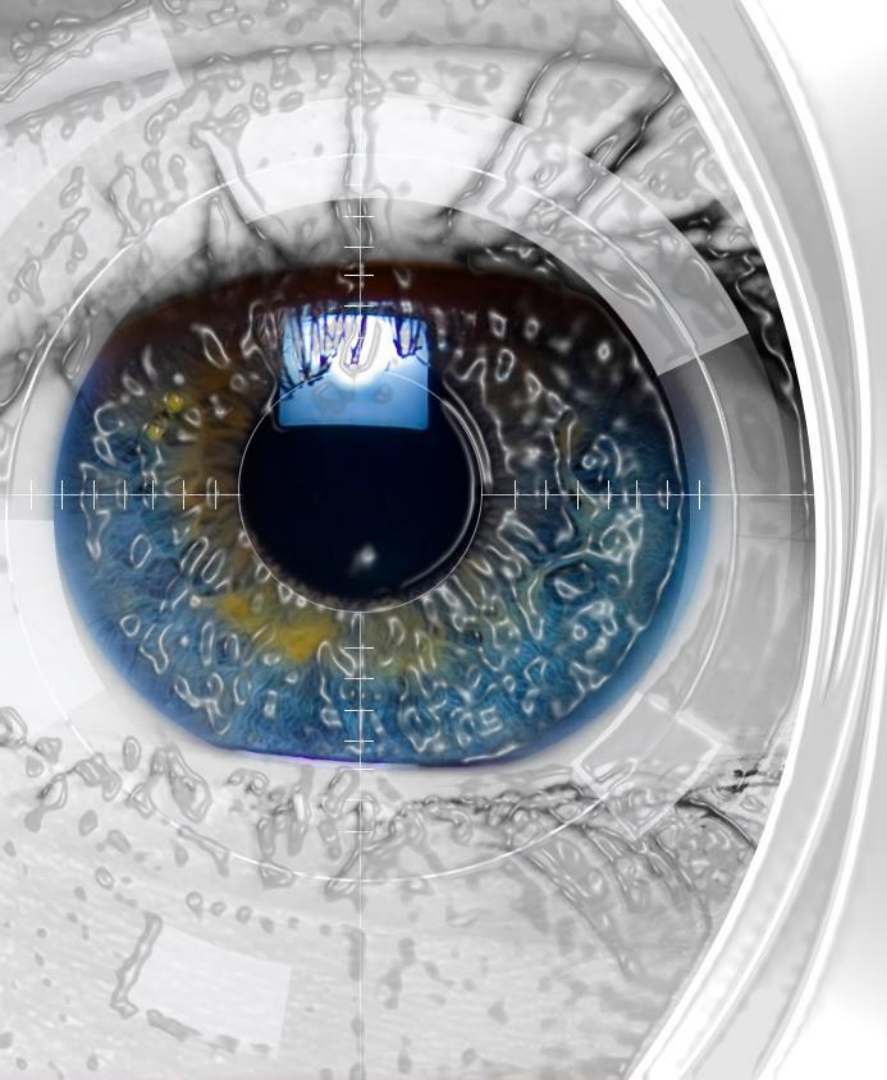
LogoType

UPDATE IN
Diabetic Retinopathy

Dr. Sura Luay Kadhim
M.B.C.H.B, C.A.B OPHTHALMOLOGY, F.I.C.O
AL KINDY COLLEGE OF MEDICINE
DEPARTMENT OF SURGERY



1. What is diabetic retinopathy?
2. Risk factors
3. Classification
4. Management/prevention

What is diabetic retinopathy?

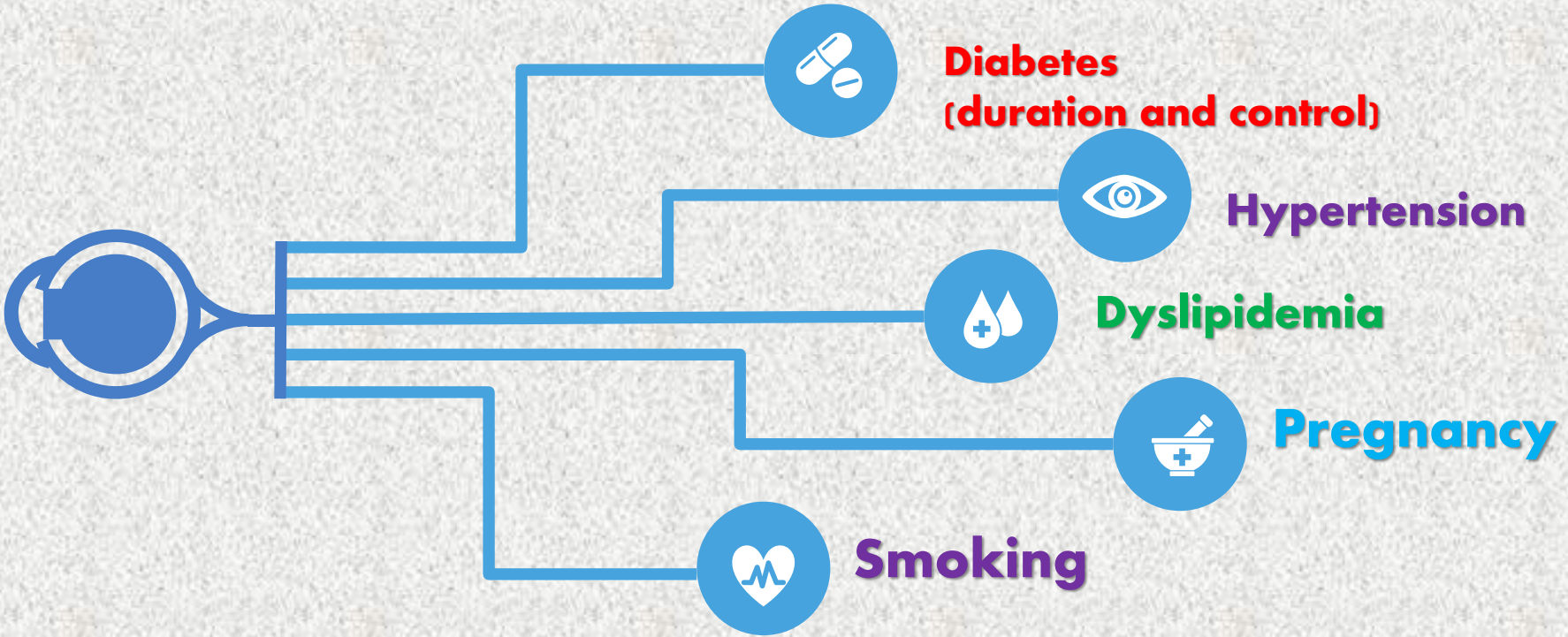
Microvascular end-organ damage

1. Capillary leakage
2. Capillary occlusion
3. Sequelae of retinal ischemia (retinal neovascularization, vitreous hemorrhage, tractional retinal detachment, neovascular glaucoma)

Among patients aged 25-74, diabetic retinopathy is a leading cause of vision loss worldwide.

By 2030, an estimated 191 million people globally will have diabetic retinopathy, and approximately 56.3 million will have vision-threatening diabetic retinopathy.

Risk Factors



Duration

A major risk factor, and is the main criteria utilized to decide when to begin screening.

Type 1 DM

After **5** years

approximately 25% of will have retinopathy.

After **10** years

almost 60% will have retinopathy

After **15** years

80% will have retinopathy.

after **20** years

Proliferative diabetic retinopathy was present in approximately 50% of type 1

99% of patients with type 1 and 60% of patients with type 2 show retinopathy.

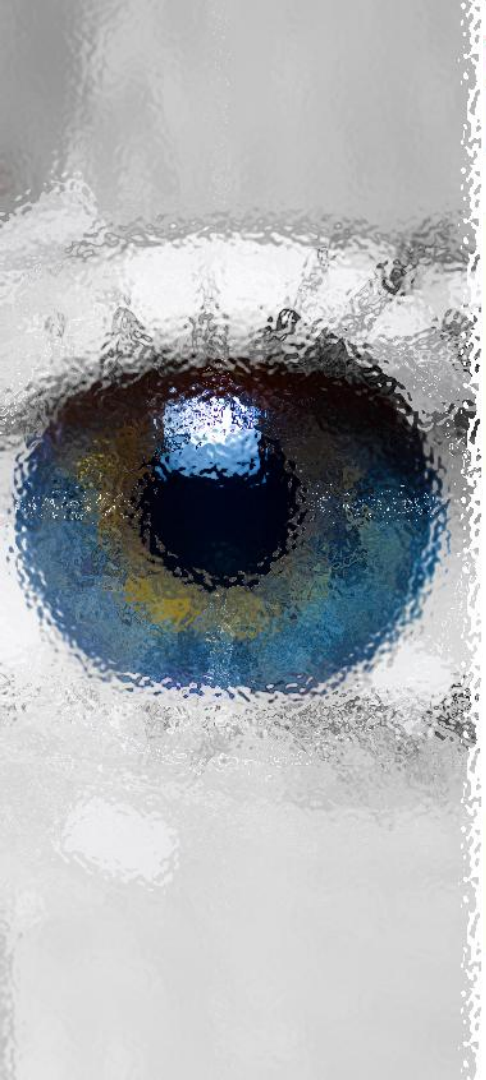


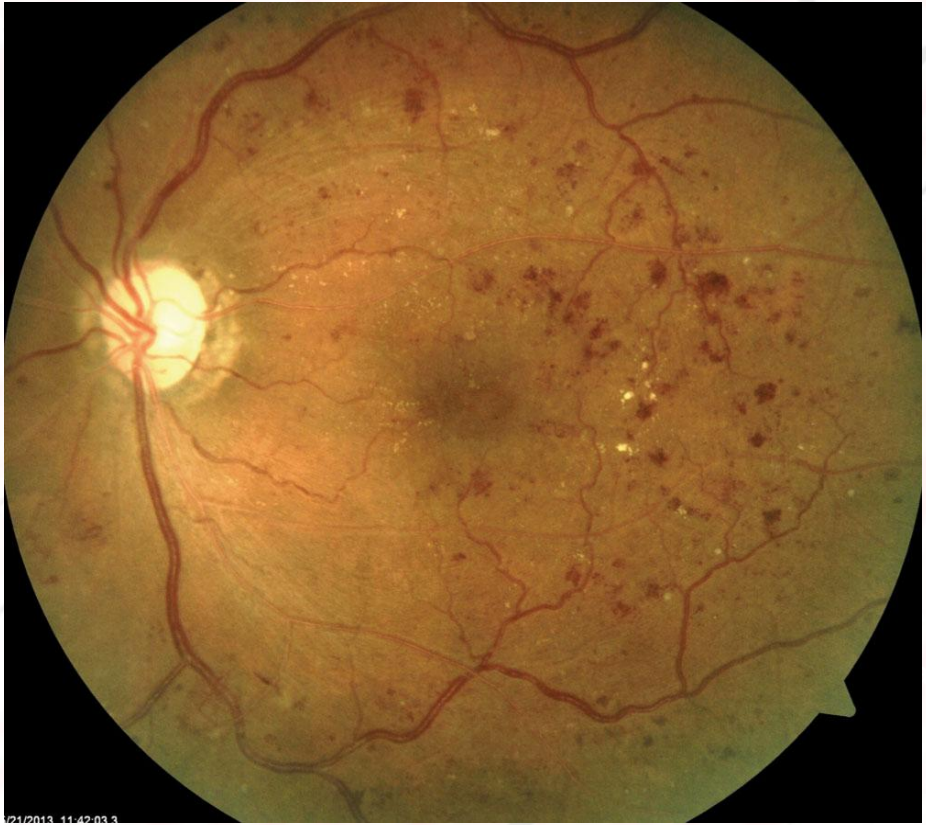
TABLE. Diagnosing Diabetic Retinopathy

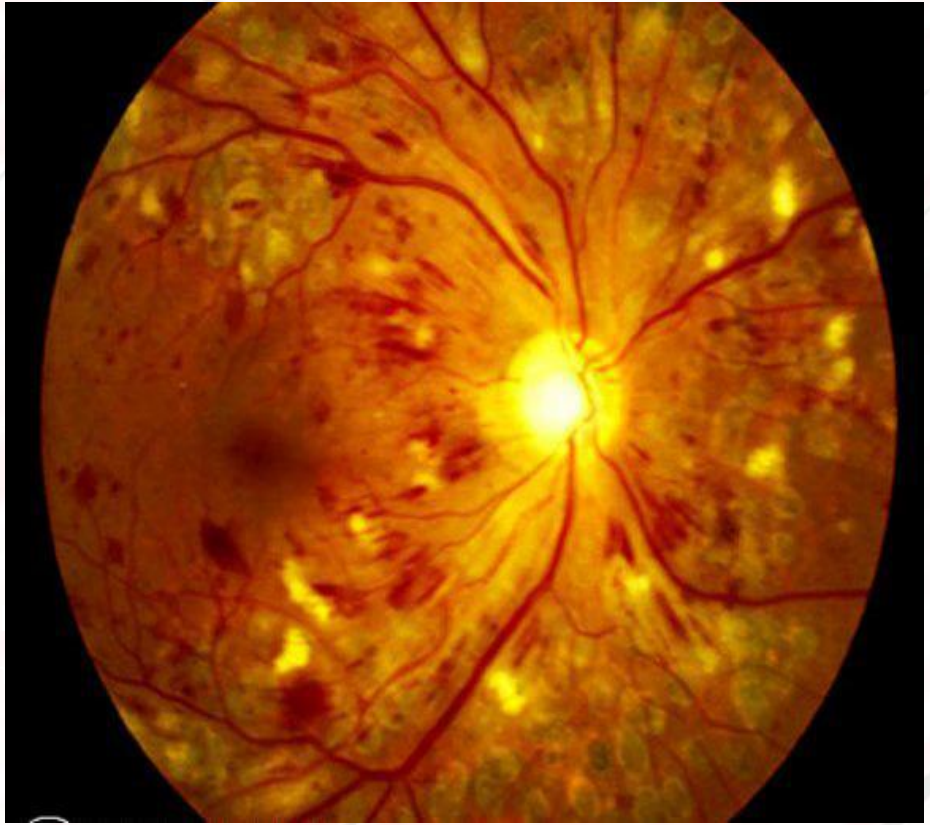
DIABETIC RETINOPATHY LEVEL	RETINAL FINDINGS
Mild NPDR	MAs only
Moderate NPDR	At least one hemorrhage or MA and/or at least one of the following: • Retinal hemorrhages • Hard exudates • Cotton wool spots • Venous beading
Severe NPDR	Any of the following but no signs of PDR (4-2-1 rule): • > 20 intraretinal hemorrhages in each of four quadrants • Definite venous beading in two or more quadrants • Prominent IRMA in one or more quadrants
PDR	One of either: • Neovascularization • Vitreous/preretinal hemorrhage

Abbreviations: IRMA, intraretinal microvascular abnormality; MA, microaneurysm; NPDR, nonproliferative diabetic retinopathy; PDR, proliferative diabetic retinopathy

Maculopathy

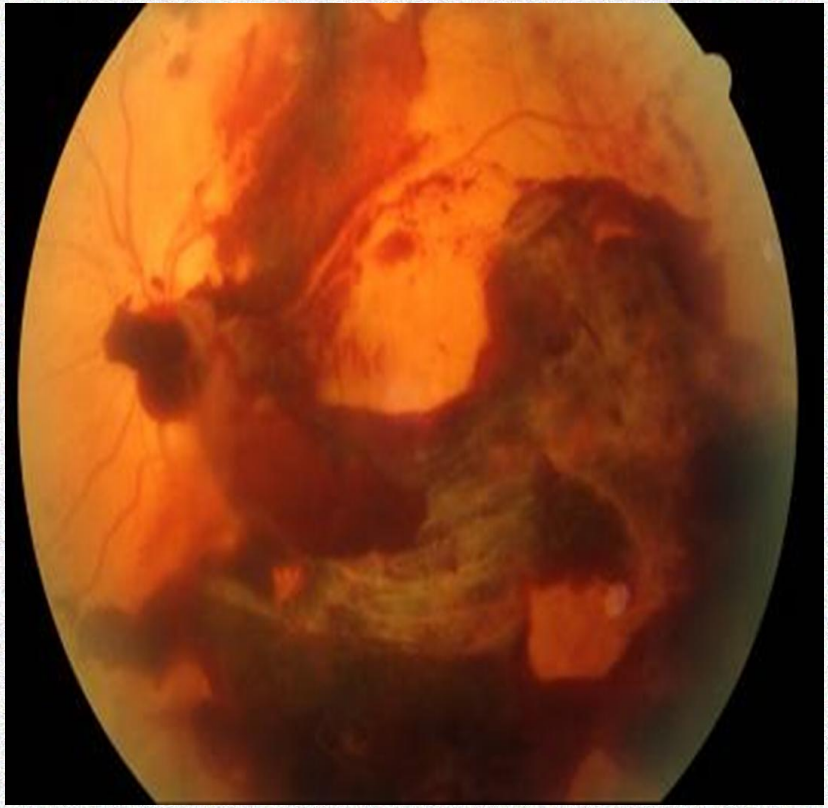
NPDRP

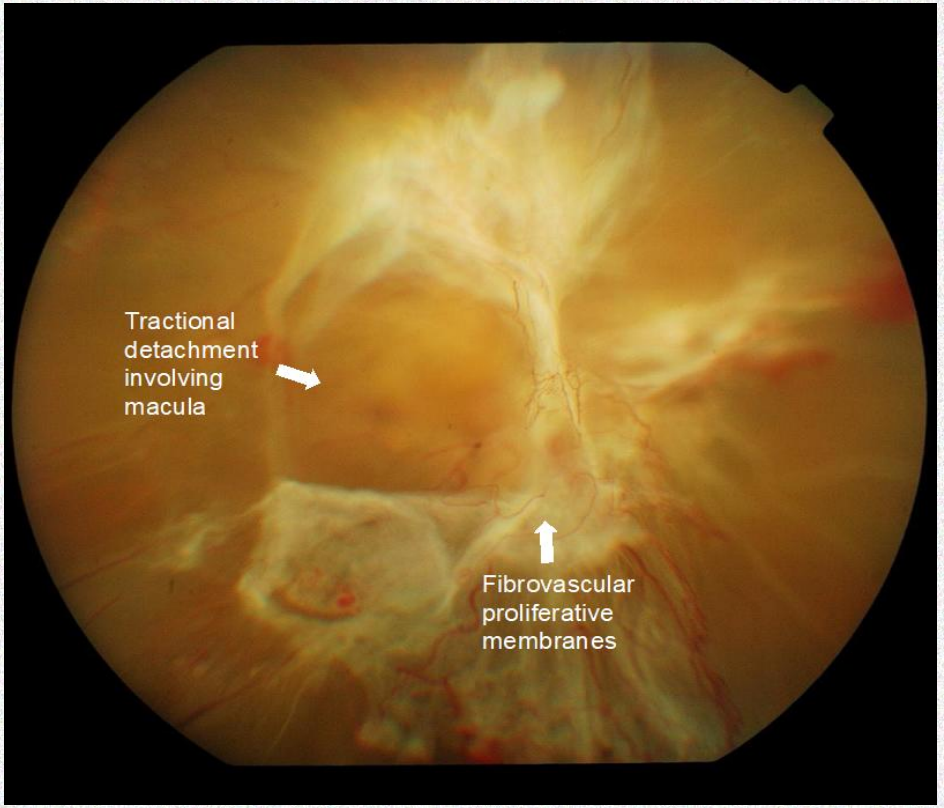




PDR

Advanced disease





Management

Screening

Treatment of diabetic retinopathy

Control the systemic disease

Follow-up

Screening

DM 1
Within 5 years of diagnosis
Yearly if no retinopathy

DM 2
At time of diagnosis
Yearly if no retinopathy

Pregnant women with diabetes
Early in the first trimester
3 monthly through pregnancy

01

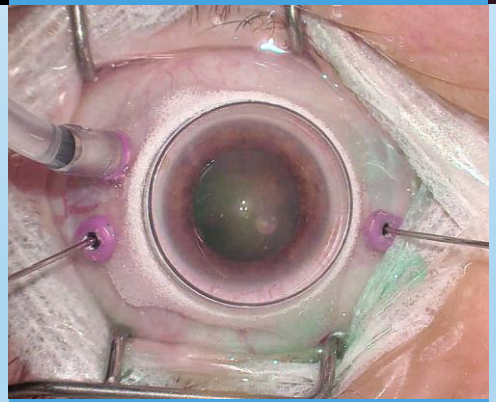
Anti VEGF

02

Intraocular steroid

03

Laser photocoagulation



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Vitrectomy

Avastin

Recombinant humanized monoclonal IgG1 antibody that binds to and inhibits vascular endothelial growth factor (VEGF), reducing the growth of new blood vessels.

1. Colorectal Cancer
Bevacizumab is FDA approved in m etastatic colorectal cancer
2. Non-squamous non-small cell lun g cancer
3. Brain cancer

FDA approved

2005

Off label use

The off-label use of bevacizumab products in ophthalmology dates back to as early as 2005 and has been used to treat neovascular age-related macular degeneration (AMD), macular edema, choroidal neovascularization (CNV), retinal vein occlusion (RVO), and proliferative diabetic retinopathy (PDR)

Anti VEGF

Bevacizumab (Avastin, off-label)

1.25 mg/0.05 mL

Ranibizumab Lucentis

0.3 mg/0.05 mL

Aflibercept (Eylea)

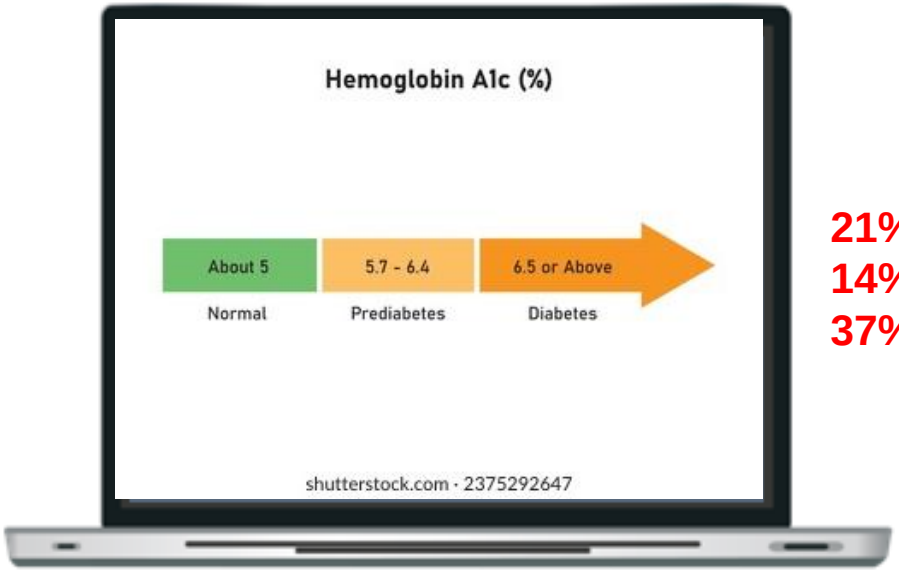
2.0 mg /0.05 mL

Faricimab Vabysmo

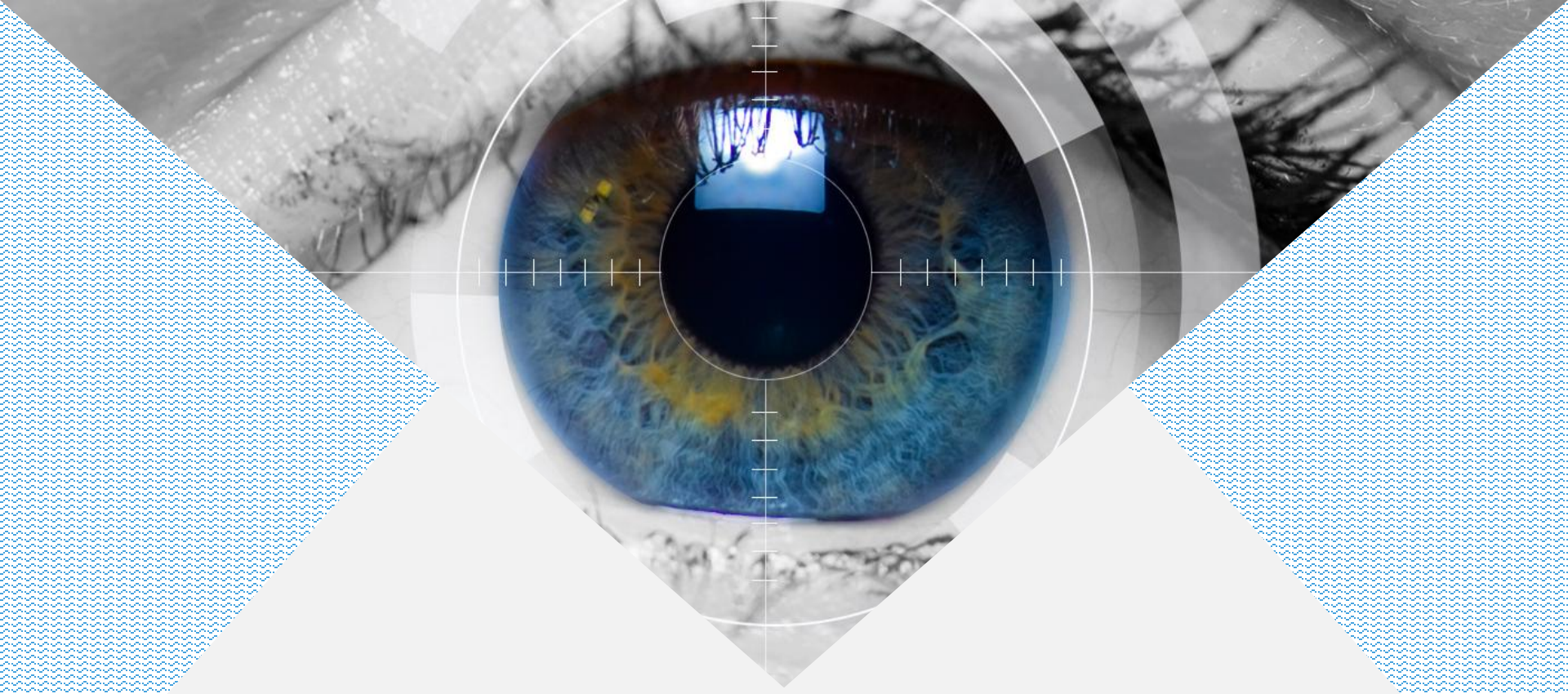
6 mg/0.05 mL

Primary Prevention

Each 1% reduction in HbA1c was associated with reduction in risk :



21% for diabetes-related deaths
14% for myocardial infarction
37% for microvascular complications



Thank you