DIABETES AND THE EYE
EPIDEMIOLOGY

• Commonest cause of blindness in the population of working age in developed countries

• Prevalence of DR of any severity in the diabetic population is 30% and prevalence of blindness due to DR is approximately 5%
PATHOGENESIS

1. Basement membrane thickening
2. Endothelial cell damage
3. RBC changes
4. Platelet stickiness increased

Arteriole - Venule

OCLUSION

LEAKAGE

Loss of pericytes

VASCULAR SUBSTANCE

Proliferative retinopathy

Retinal edema

Hard exudate
RISK FACTORS

- Duration of DM
- Control of DM. Will not prevent but delays
- Hypertension
- Renal Disease
- Pregnancy
- Obesity, hyperlipidaemia, smoking, anaemia
CLINICAL CLASSIFICATION OF DIABETIC RETINOPATHY

- Background
- Pre-proliferative
- Proliferative
- End-stage diabetic eye disease
Background

Microaneurism

Exudate

Blot haemorrhage
Diabetic maculopathy
Pre-proliferative

- Haemorrhage
- Vascular tortuosity
- Microaneurism
Proliferative retinopathy

NVD

NVE

Pre-retinal haemorrhage

Laser burn scars
Advanced diabetic eye disease

- Preretinal fibrosis and tractional retinal detachment
- Rubeosis iridis
End-stage diabetic eye disease

- PHTHISIS
  Shrunken, soft eye with opaque vascularised cornea and no visual potential
TREATMENT

• LASER: Light Amplification by the Stimulated Emission of Radiation
  – Focal
  – Grid
  – Panretinal photocoagulation
SCREENING

• No retinopathy or BDR with normal vision
  – See yearly, or sooner if vision deteriorates

• Refer to ophthalmologist
  – BDR with macular changes
  – BDR with decrease in vision
  – Pre-proliferative retinopathy
  – Proliferative retinopathy