

DIABETIC RETINOPATHY (DR)

Definition-

Damage to the retina from long-term
diabetic induced vascular disease

Etiology/Pathophysiology

non-proliferative-

Endothelial damage > capillary occlusion
> capillary leak in the retina with blurred vision > scars > possible traction on vitreous > possible retina detachment

proliferative

New fragile vessels > bleed > loss of vision with scarring of retina

EPIDEMIOLOGY

-leading cause of blindness in ages 25 to 74 in USA.

- 8,000 new cases of blindness/year in USA.
- 12% of all blindness in USA.
- 1/8 of SSI money for blindness

CLINICAL

Symptoms-

1. Initially- asymptomatic
2. Later- blurred, distorted, lost, or missing areas of vision or floaters.

Exam

1. Microaneurysms- small red dots on retina
2. Dot and blot hemorrhages-deep retina
3. Flame-shaped hemorrhage-retina surface
4. Retinal edema and hard exudates from leak at blood-retina barrier .
5. Cotton wool spots -nerve fiber infarction
6. Venous loops, beading due to ischemia
7. Macular edema-thickening or hard exudate half mm from fovea, or >one disc area in size,< one disc area from fovea.
8. Intra-retinal microvascular abnormalities-
new collateral non-leaking capillaries

Non-proliferative DR-

1. Mild-at least one micro aneurysm

2. Moderate-hard exudates, hemorrhages, microaneurysms

3. Severe (4-2-1)

-in 4 quadrants-bld, aneurysms

-in 2 quadrants- venous beading,

-in 1 quadrant- intra-retinal microvascular abnormalities

FURTHER TESTS

Retinal Photography

Fluoroscein Angiography

TREATMENT

Laser surgery.

PATIENT EDUCATION/ HEALTH MAINTENANCE

-Intensive glucose control- hemoglobin A1 C. less than 7%-relates to prognosis.

-Regular evaluations for possible laser treatment.

-Control of hypertension, hyperlipidemia.