

HYPERTENSIVE RETINOPATHY

00:00:16



◦ OPTIC NEUROPATHY

RETINOPATHY

CHOROIDOPATHY

00:00:38



1. **Branch retinal artery Occlusion**
2. **Central retinal artery Occlusion**
3. **Branch retinal vein occlusion**
4. **Central retinal vein Occlusion**

00:00:54



The American College of Cardiology/American Heart Association (ACC/AHA)

Category	Systolic (SBP)	Diastolic (DBP)
Elevated blood pressure	120-129 mmHg	< 80 mmHg
Stage 1 hypertension	130-139 mmHg	80-89 mmHg
Stage 2 hypertension	≥ 140 mmHg	≥ 90 mmHg

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PATHOGENESIS

ACUTE EFFECT :-

**VASOSPASM Due to
autoregulation**

◦ CHRONIC EFFECT:-

ATHEROSCLEROSIS

00:02:22



PATHOGENESIS

ACUTE EFFECT :-

**VASOSPASM Due to
autoregulation**

◦ CHRONIC EFFECT:-

ATHEROSCLEROSIS

00:02:33



PHASES of HYPERTENSIVE RETINOPATHY

- VASOCONSTRICTIVE PHASE
 - SCLEROTIC PHASE
 - EXUDATIVE PHASE

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PHASES of HYPERTENSIVE RETINOPATHY

- VASOCONSTRICTIVE PHASE
 - SCLEROTIC PHASE
 - EXUDATIVE PHASE

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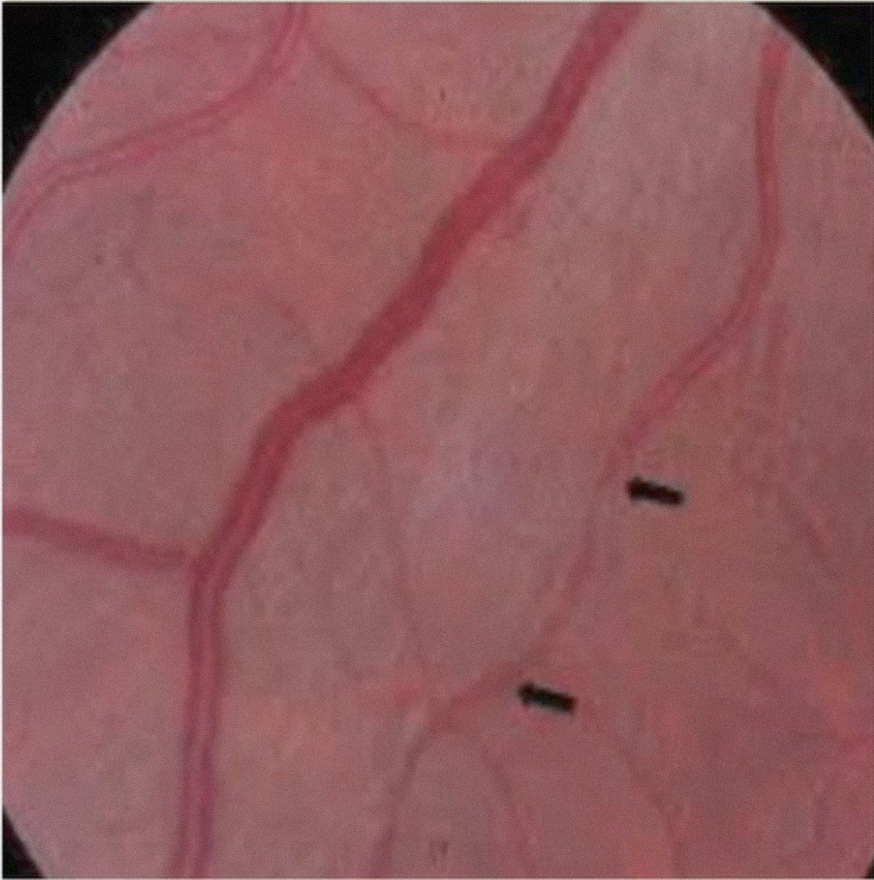
VASOCONSTRICTIVE PHASE

- Elevated luminal pressures, local autoregulatory mechanisms cause retinal arteriole narrowing and vasospasm to reduce flow.

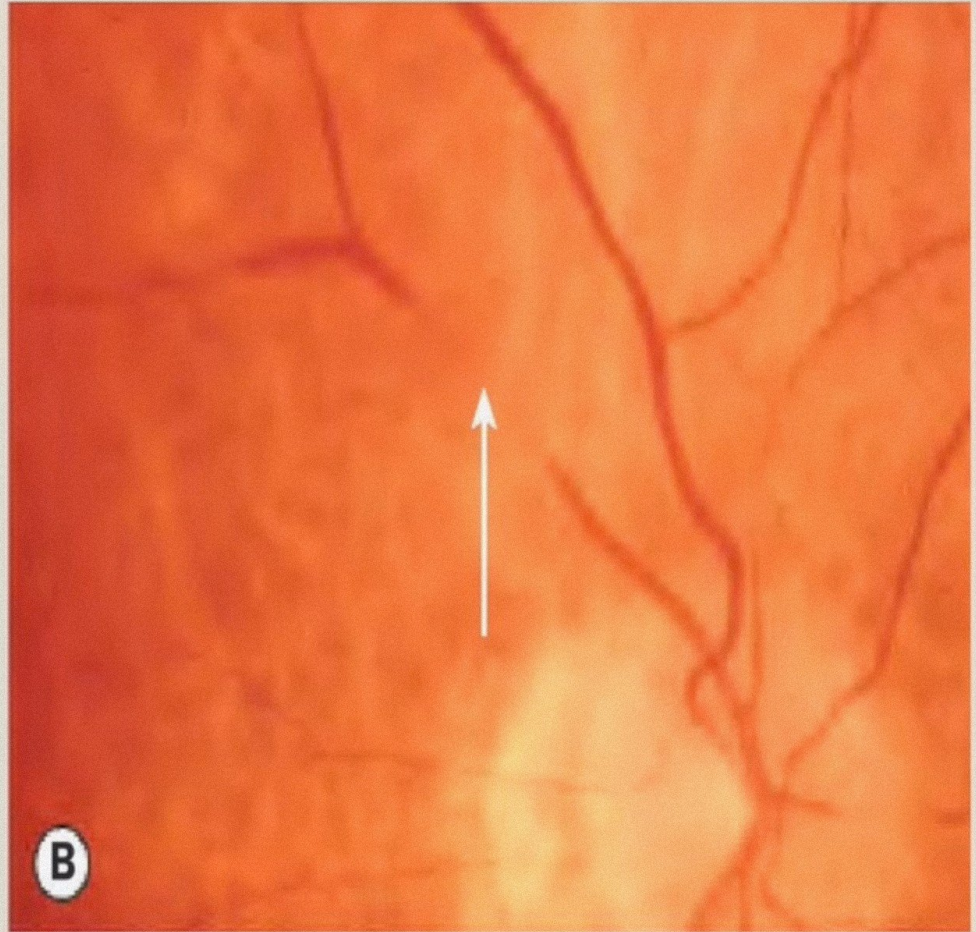
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SCLEROTIC PHASE

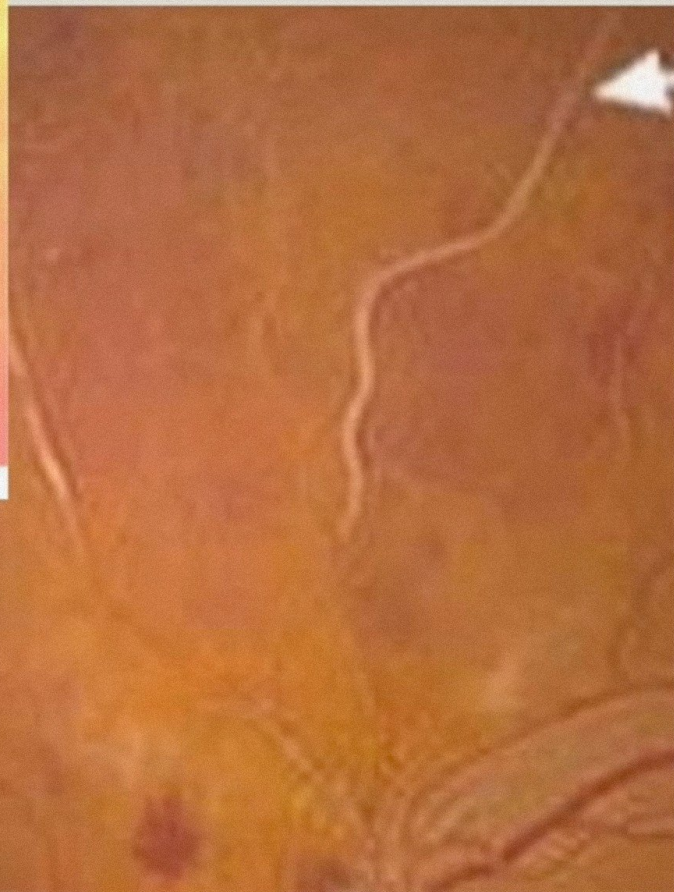
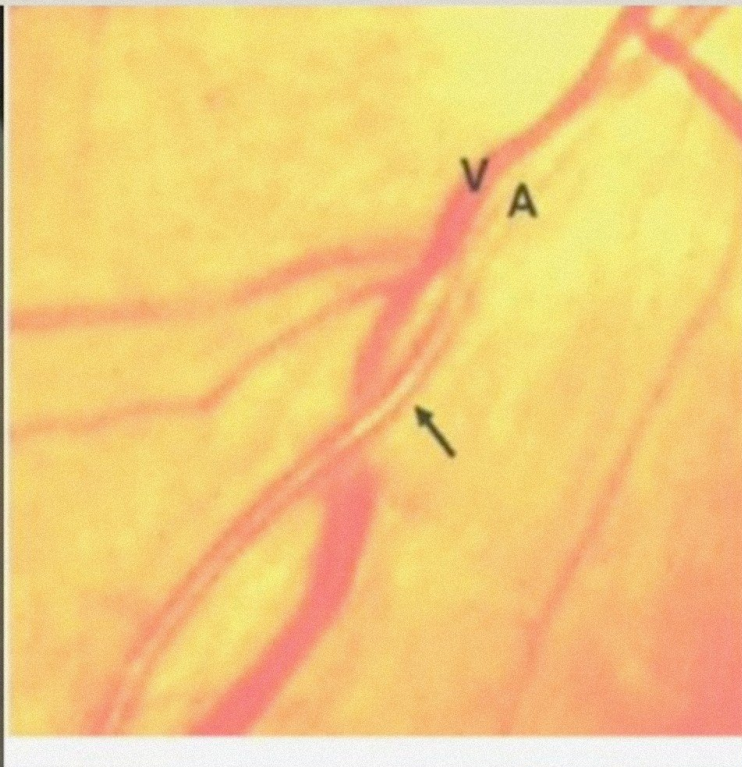
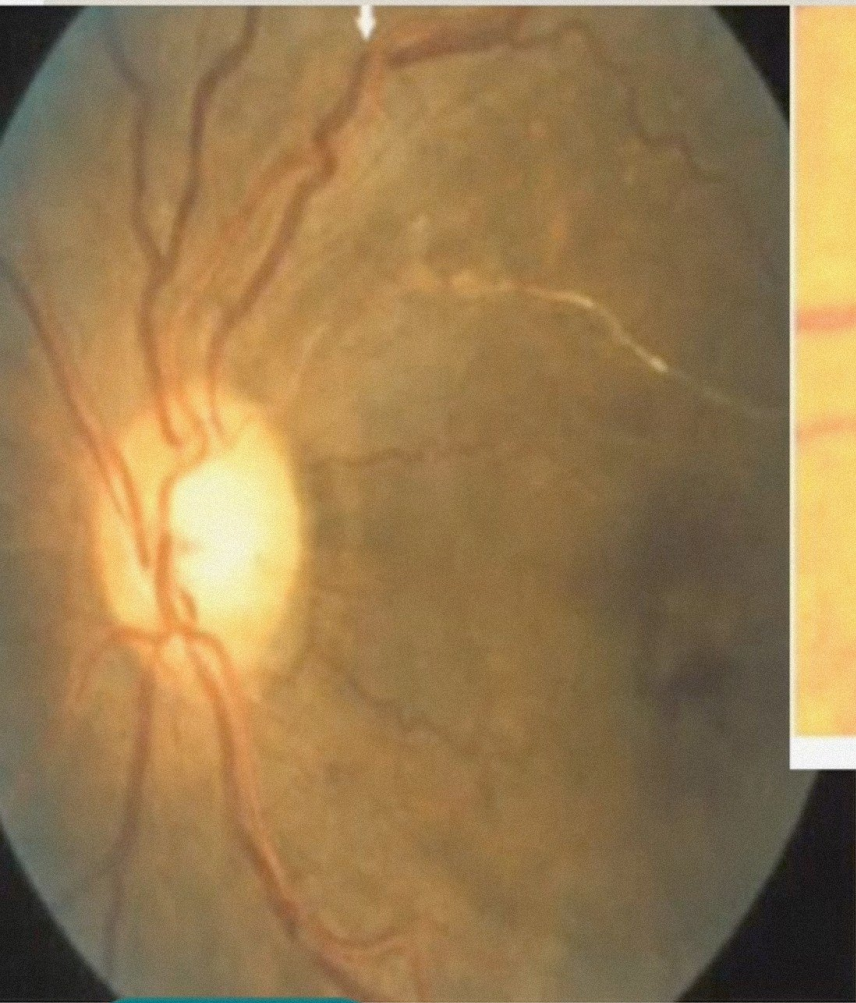
Layers of the endothelial wall undergo changes such as:-

- **Intimal thickening,**
- **Medial hyperplasia,**
- **Hyaline degradation** in the arterioles worsening arteriolar narrowing,

- AV crossing changes,
- Silver and copper wiring.

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AV SIGNS

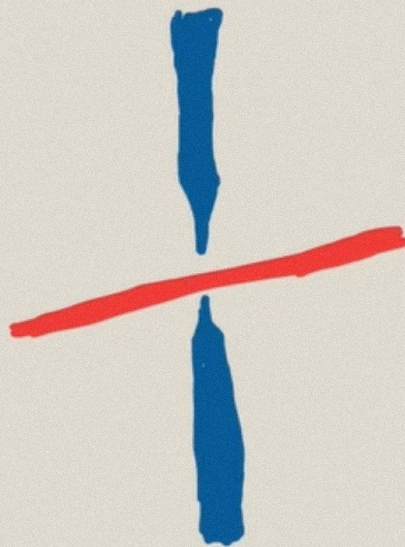
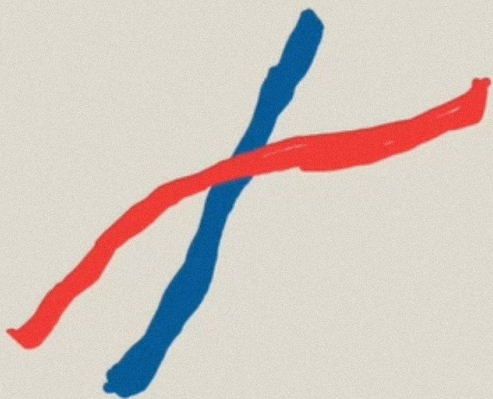
- .N.B. Arteriovenous crossing changes in a case of hypertensive retinopathy are:
- **Gunn's sign:** Tapering of veins on either side of arteriovenous crossing
- **Bonnet sign:** Dilatation of the veins distal to the arteriovenous crossing.
- **Salus sign:** Deflection of veins arteriovenous crossing.

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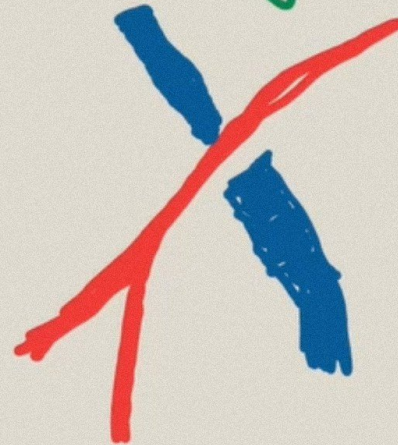


SALU'S
~~~~~

SIGN  
~~~~~

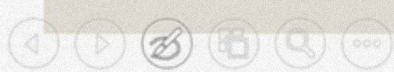


Bonnet
~~~~~  
Sign  
~~~~~



Gunn's Sign
~~~~~

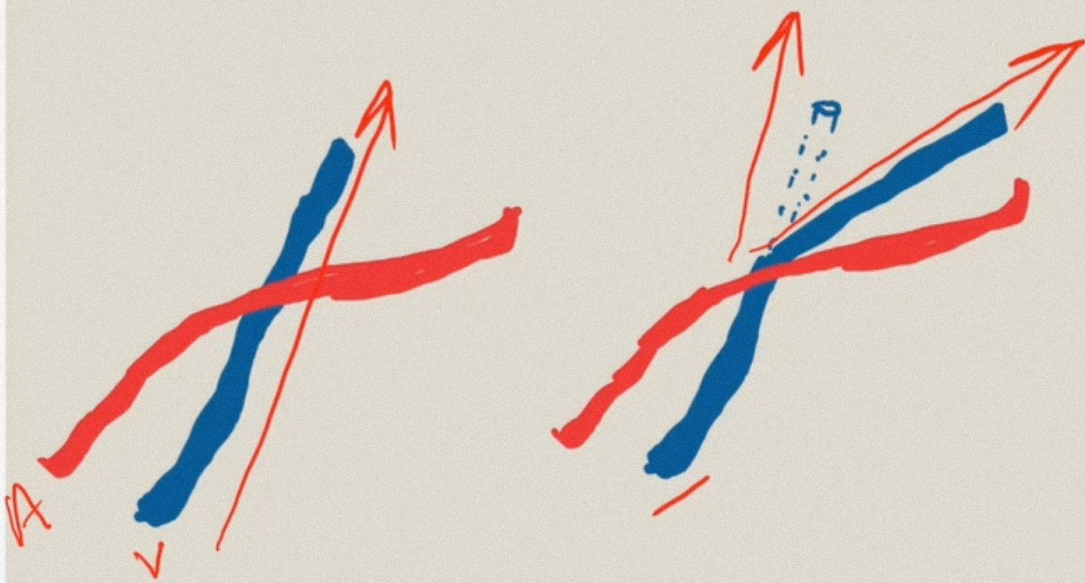
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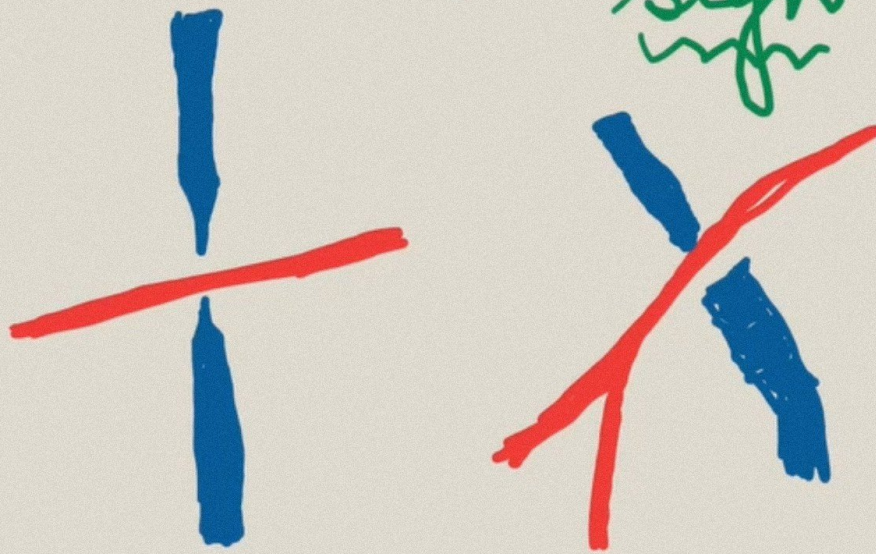


SALU'S

SIGN



Bonnet  
Sign

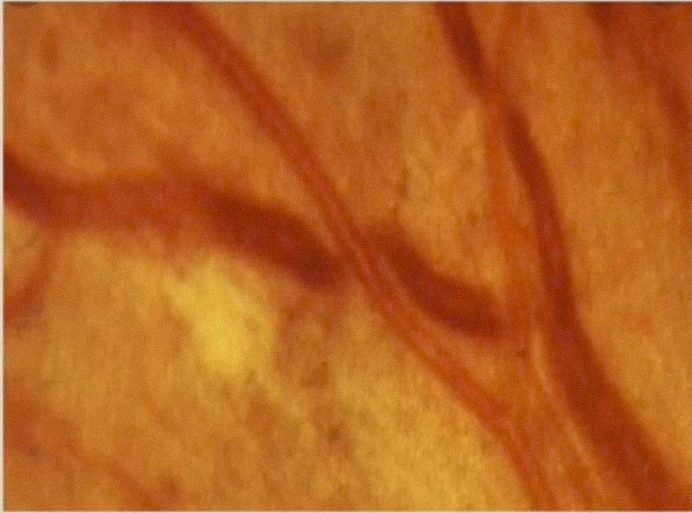
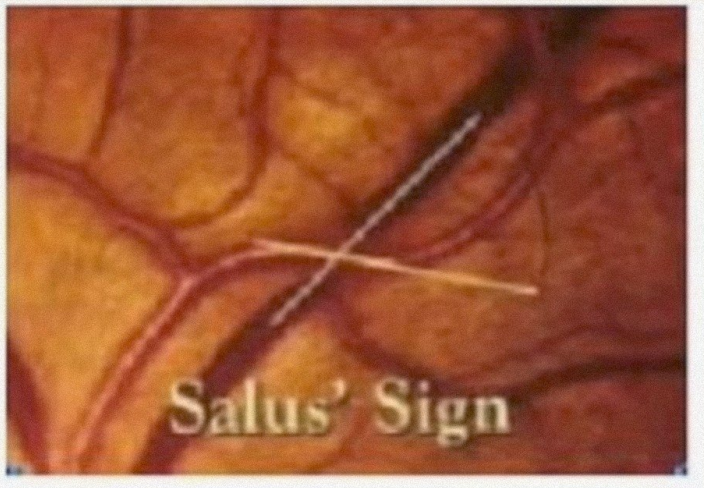
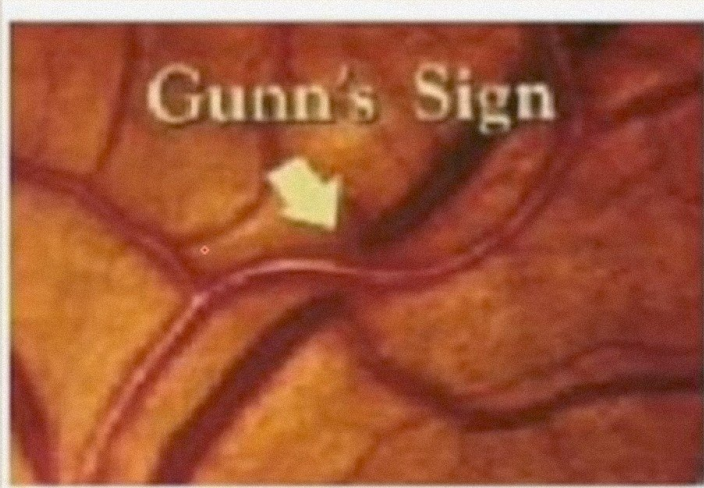


Gunn's Sign

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# EXUDATIVE PHASE

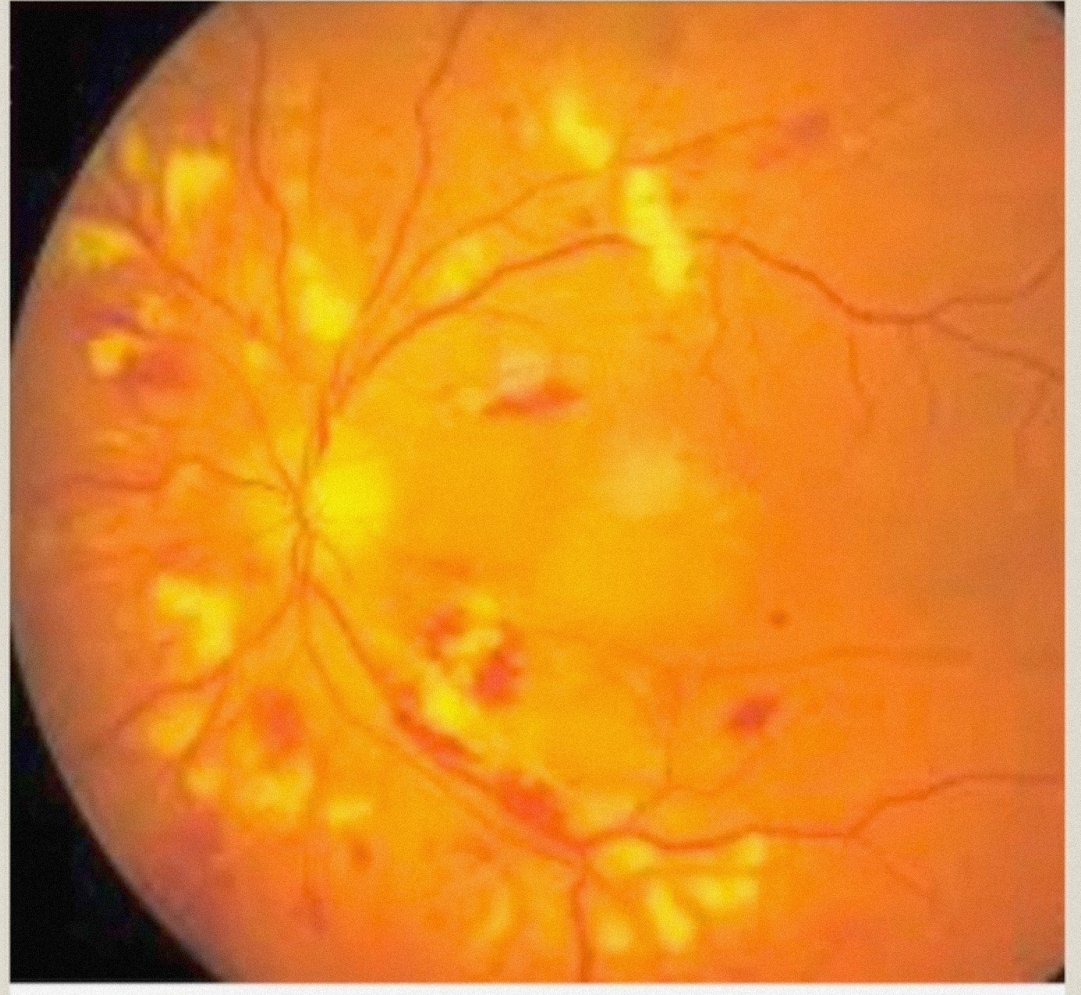
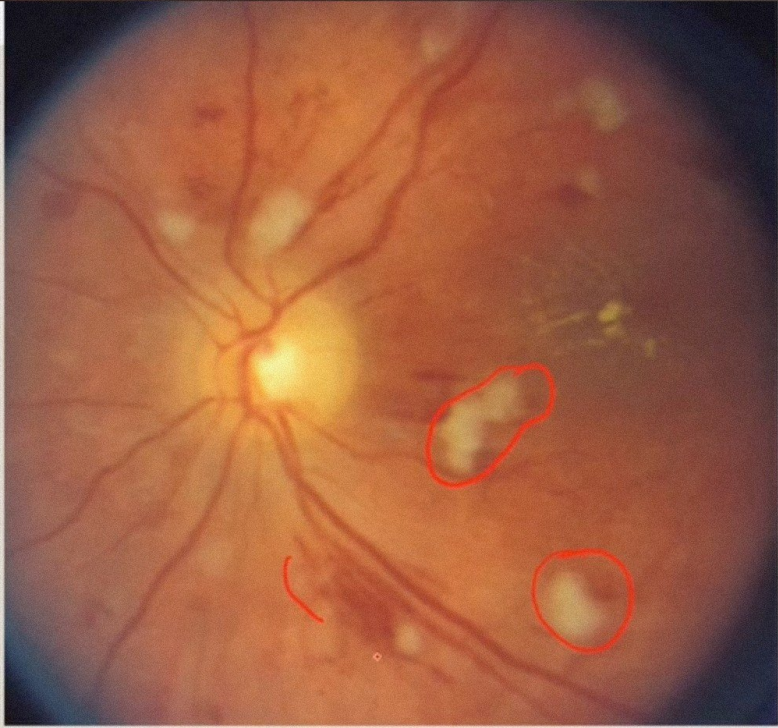
Disruption of the blood-~~brain~~ barrier and leakage of plasma and blood causing *retinal*

- **Retinal haemorrhages** ( dot blot haemorrhages, flame shaped haemorrhages).
- **Cotton wool spots** ( secondary to fibrinous necrosis and luminal narrowing).

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00:08:01





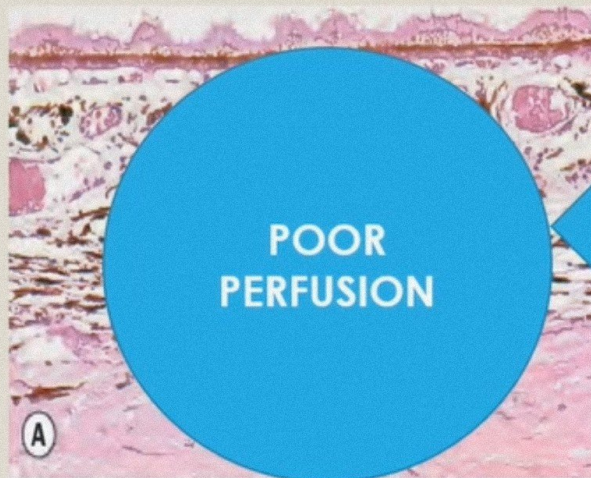
# HYPERTENSIVE CHOROIDOPATHY

- Hypertensive choroidopathy is rare but may occur as the result of an acute hypertensive crisis (accelerated hypertension) in young adults.

FIBRINOID NECROSIS of  
the choroidal arteries

SEGMENTAL  
INFARCTION OF

00:10:17 CHOROID



- Elschnig pearls
  - Seigrist streaks
  - Pigment epithelium detachment
- Exudative RD

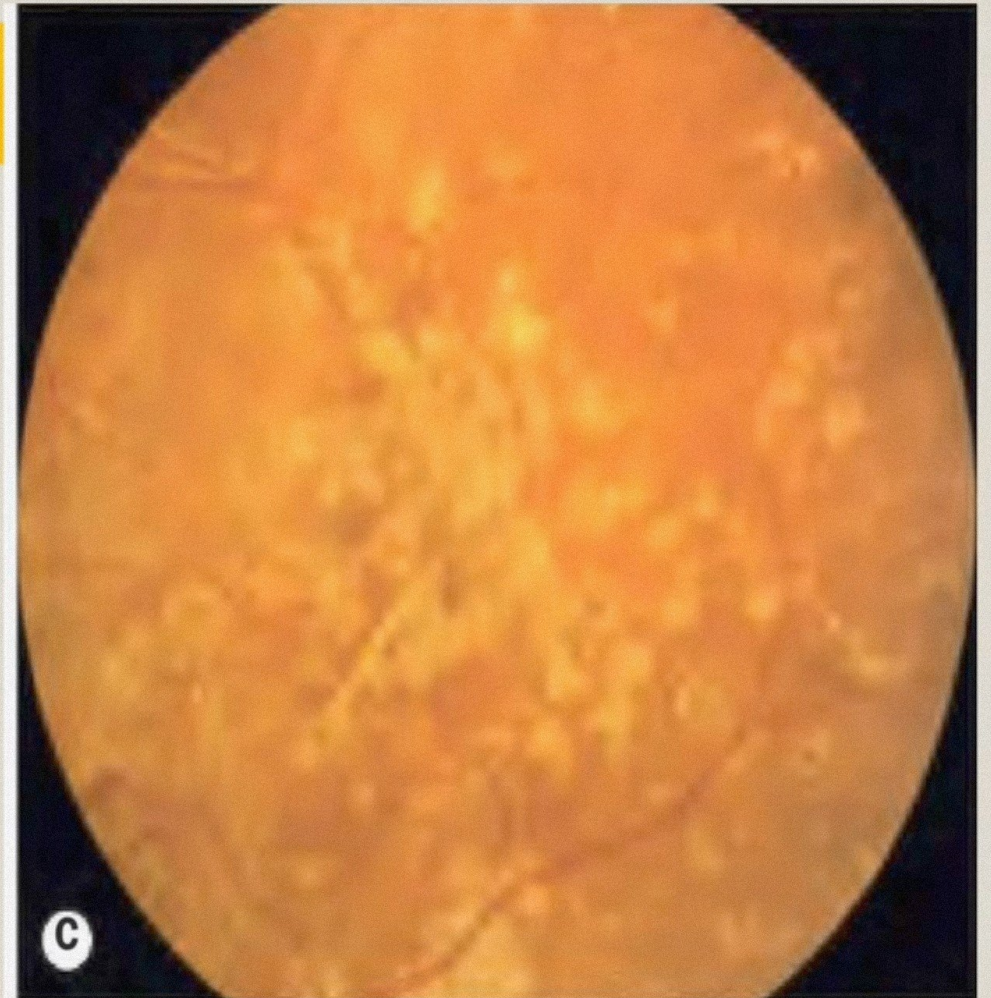




# Elschnig Spots

**Elschnig spots** :- are focal choroidal infarcts seen as small black spots surrounded by yellow haloes

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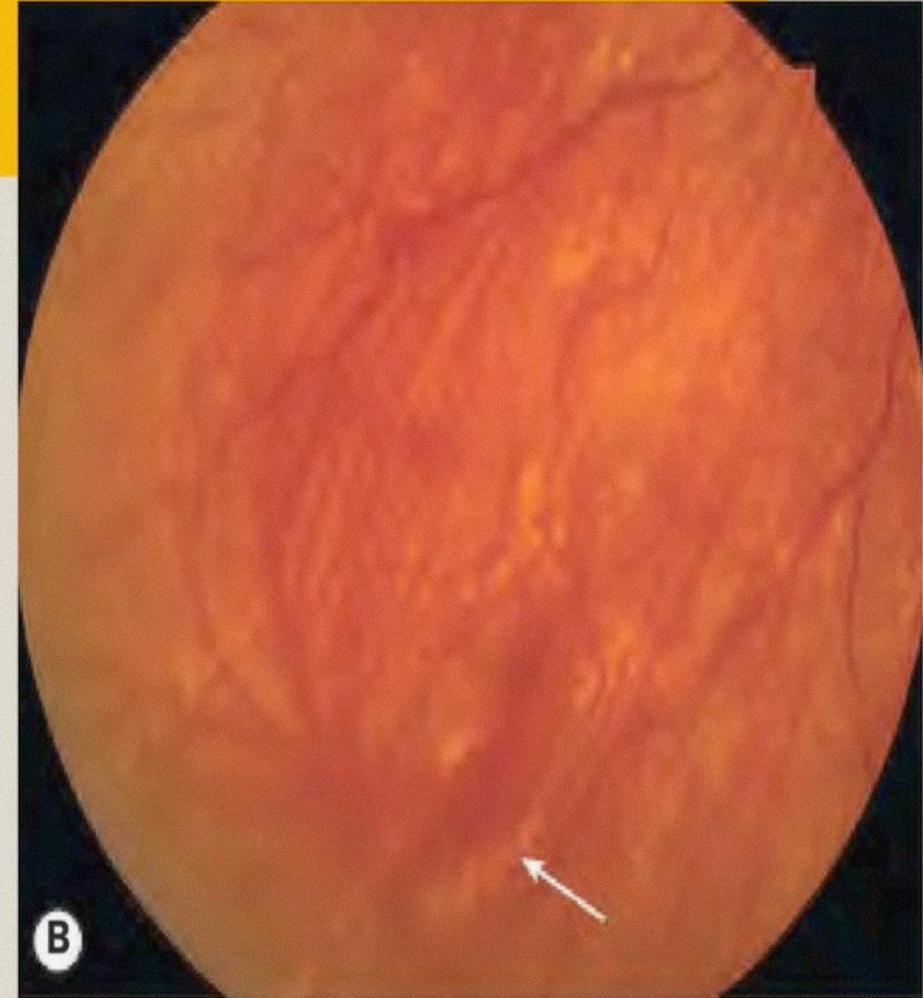




# SIEGRIST STREAKS

- **Siegrist streaks:-**  
flecks arranged linearly along choroidal vessels and are indicative of fibrinoid necrosis associated with malignant hypertension.

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# EXUDATIVE RETINAL DETACHMENT

- **Exudative retinal detachment:-**  
sometimes bilateral, may occur in acute severe hypertension such as that associated with toxæmia of pregnancy.

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# OPTIC NEUROPATHY

- Optic disc swelling
- Flame shaped haemorrhages at the disc margin,
- Blurred disc margins,
- Congested retinal veins,
- Papilledema, and secondary macular exudates.



00:12:11

