



جامعة المستقبل
قسم تقنيات البصريات

مشاكل العين بالامراض الباطنية و العصبية

Hypertension

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L7

Hypertension

Is one of the most common diseases ,sustained elevation of blood pressure .

- Systolic blood pressure(SBP) ≥ 140 mm Hg
- Diastolic blood pressure (DBP) ≥ 90 mm Hg
- Normal: SBP <120 , DBP <80 mm/hg.
- BP is the force of blood against the artery wall.
- BP is regulated by the renal ,hormonal, vascular & neurologic systems.

Classification

Classification (JNC7)	Systolic pressure mmHg	Diastolic pressure mmHg
Normal	90-119	60-79
High normal or prehypertension	120-139	80-89
Stage 1 hypertension	140-159	90-99
Stage 2 hypertension	≥ 160	≥ 100
<u>Isolated systolic hypertension</u>	≥ 140	<90

Etiology

❖ **Primary** (Essential) HTN-Elevated BP with unknown cause-90% to 95% of all cases, Idiopathic

❖ **Secondary** HTN Its due to:

- Endocrine ,Neurogenic , Kidney disease and Adrenal gland tumors
- Increased salt intake
- Tobacco and Alcohol
- Stress , Certain medications
- Obesity (BMI >30)

SIGNS & SYMPTOMS

- Usually asymptomatic (that's why it's called silent killer)
 - ❖ Patient can have following symptoms:
- Breathlessness, Headache
- Bleeding from nose, Fatigue & sleepiness
- Profuse sweating
- Blurred vision
- Dizziness , Palpitations, Dyspnea

Hypertension Diagnosis

- Diagnosis requires several elevated readings over several weeks (unless >180/110)
- BP measurement in both arms

- Use arm with higher reading for subsequent measurements
- Ambulatory BP Monitoring
 - For “white coat” phenomenon ,hypotensive or hypertensive episodes ,apparent drug resistance



COMPLICATIONS

- Heart
- Brain
- Kidney
- Eyes: Loss or reduced vision

CONTROL HTN



Highlight Treatment

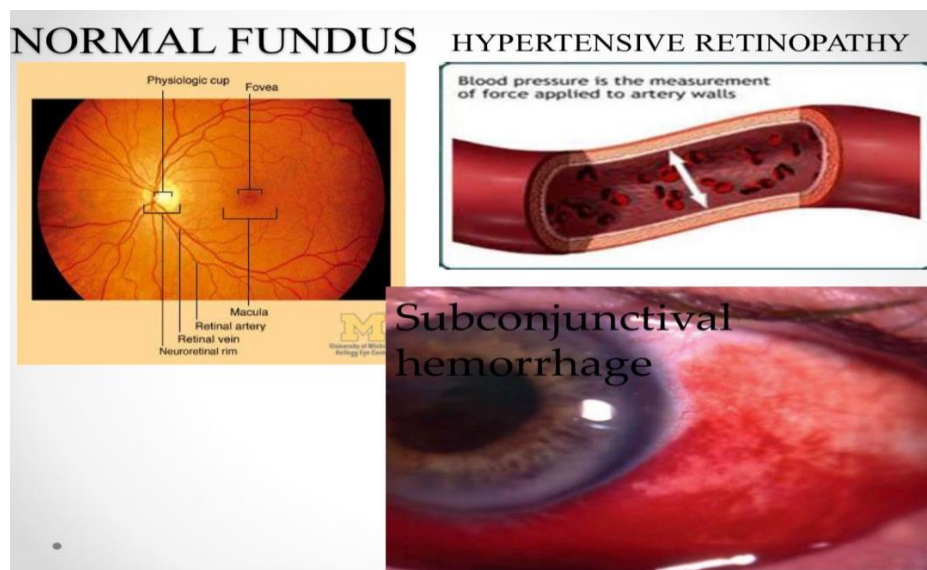
- SBP <130 and <80 mm Hg
 - Don't treat
- SBP ≥130-140 or DBP ≥80-90 mm Hg
 - Treat if any of the following:
- History of CVD, DM, or CKD
- Age ≥65 years and SBP ≥130
- SBP ≥140 or DBP ≥ 90, mm Hg
 - Treat all

Treatment Goals

- Goal is to reduce overall cardiovascular risk factors and control BP by the least intrusive means possible
- BP < 140/90
- In patients with diabetes or renal disease, goal is < 130/80

EFFECT ON EYE

- ❖ Hypertensive retinopathy
- ❖ Hypertensive choroidopathy
- ❖ Hypertensive optic neuropathy
- ❖ Subconjunctival haemorrhage in older individuals is prevalent, and blood pressure should be checked.
- ❖ Glaucoma



FUNDUS CHANGES

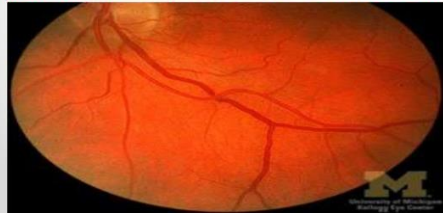
Prolonged systemic hypertension results in retinal vascular effects:

- ❖ Vessel narrowing
- ❖ Arterio venous crossings
- ❖ Microaneurysms
- ❖ Hemorrhages
- ❖ Cotton-wool spots
- ❖ Macular star
- ❖ Papilledema

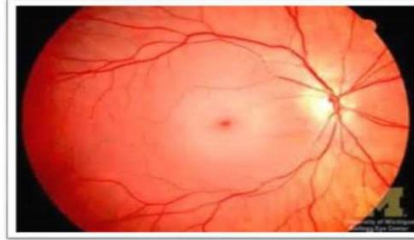


macular star

ARTERIO VENOUS CROSSINGS



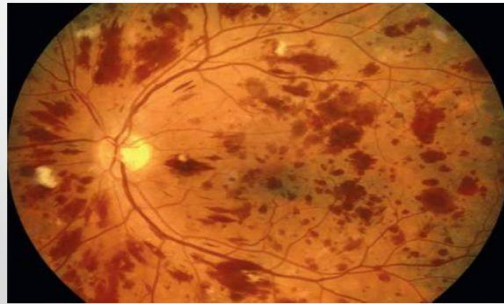
VESSEL NARROWING



HEMMORRHAGES



MICROANEURYSMS



cotton wool spots

HYPERTENSIVE CHOROIDOPATHY

- It's a rare.
- Choroidal vascular bed shows impaired circulation & extensive occlusive & ischemic changes.
- HYPERTENSIVE OPTIC NEUROPATHY(HTON)
- Optic disc edema has been described as an essential manifestation of malignant HTN.
- Optic disc edema is the initial manifestation of HTON.