BLOOD PRESSURE

Professor Hamid K. Al Janabi
MRCP,FRCP,FACC,MD,FCCP
College of Medicine Ashur University

What is blood pressure?

It is the tension exerted by the circulating blood volume on the blood vessels wall due to the force of LV contraction against peripheral resistant of arterial system it is directly proportional to cardiac out put and the peripheral resistant and that can be detected by blood pressure devices or other sensors.

What is the normal blood pressure?

Systolic blood pressure

≥100 - ≤ 120 mmHg

Diastolic blood pressure

≥ 60 - ≤ 80 mmHg

Blood Pressure Disorders

- Hypertension
- Hypotension

Blood Pressure Classification

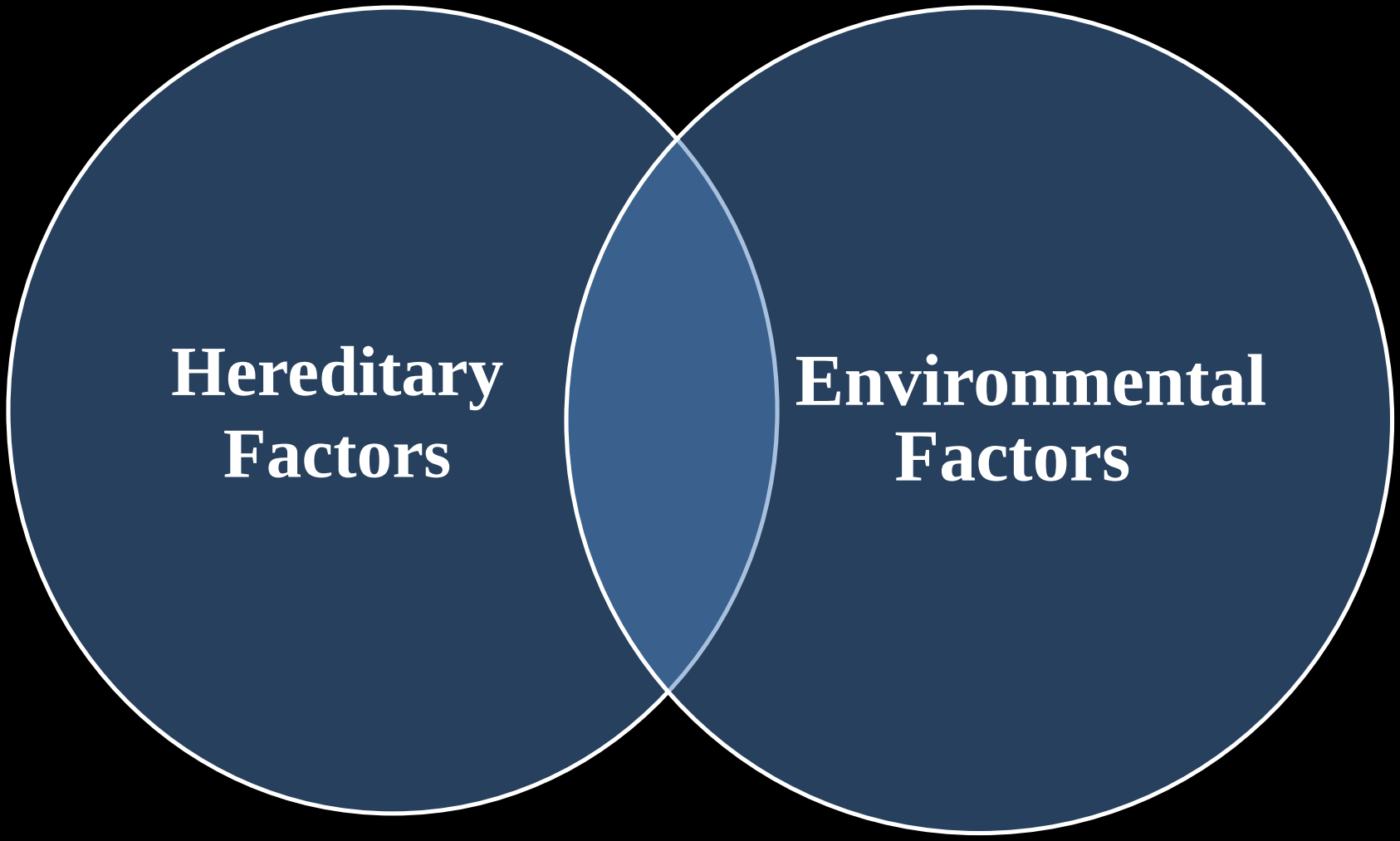
BP Classification	SBP mmHg		DBP mmHg
Normal	<120	and	<80
Prehypertension	120–139	or	80–89
Stage 1 Hypertension	140–159	or	90–99
Stage 2 Hypertension	≥160	or	≥100
Isolated systolic hypertension	≥140	*and*	<90

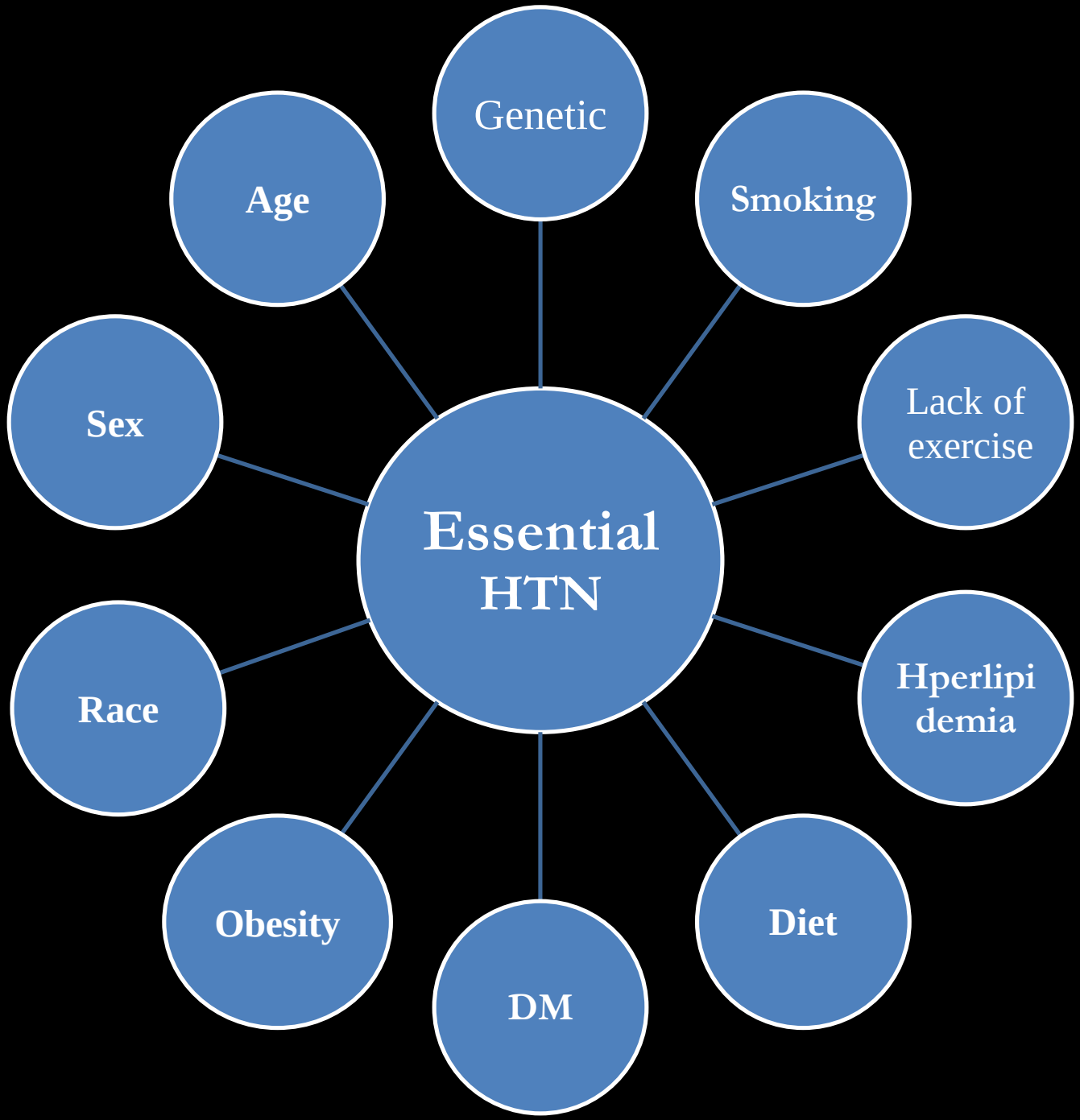
Adapted from Chobanian et al. Harrison Text Book

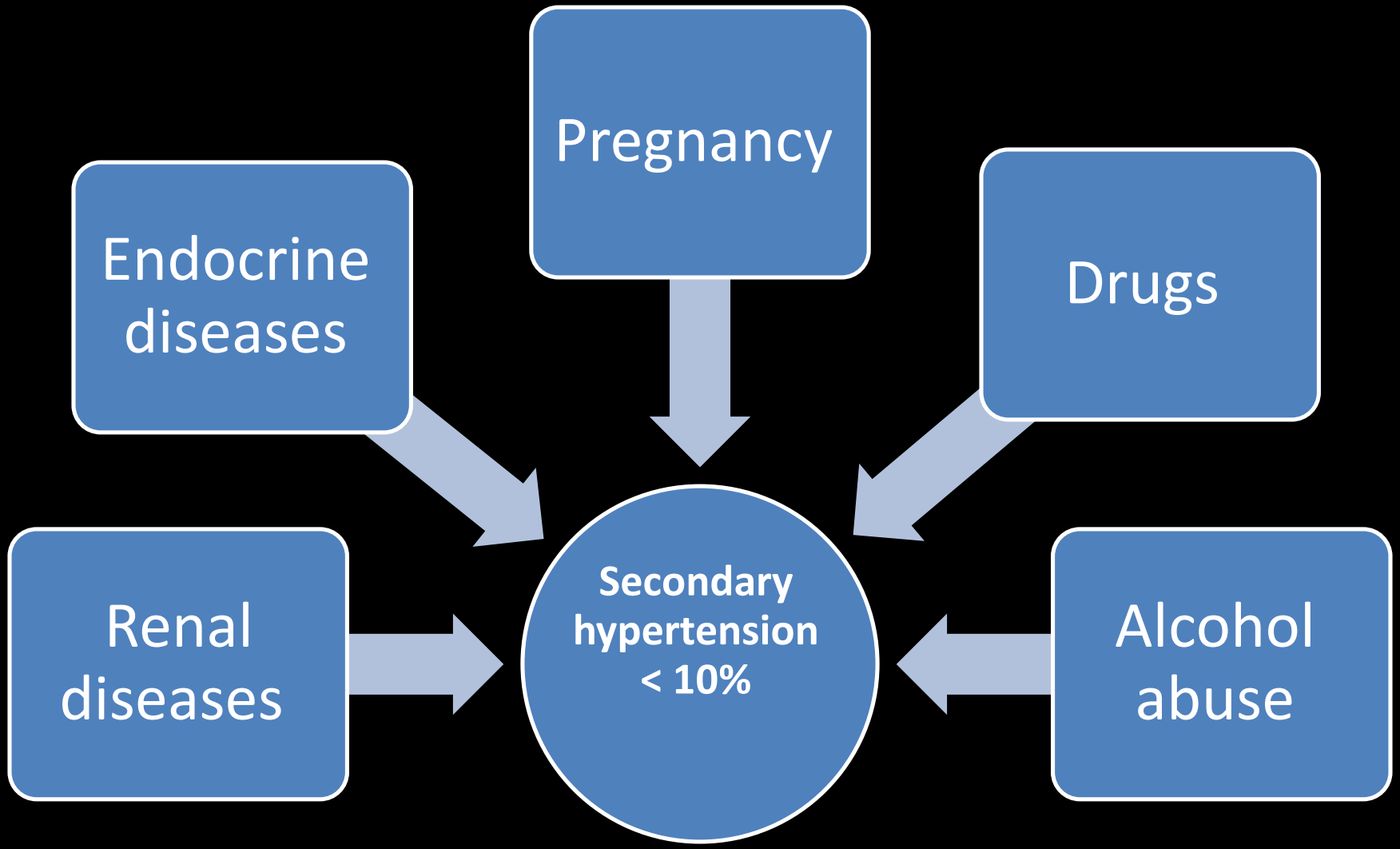
Hypertension

- Essential hypertension >90%
- Secondary hypertension < 10%

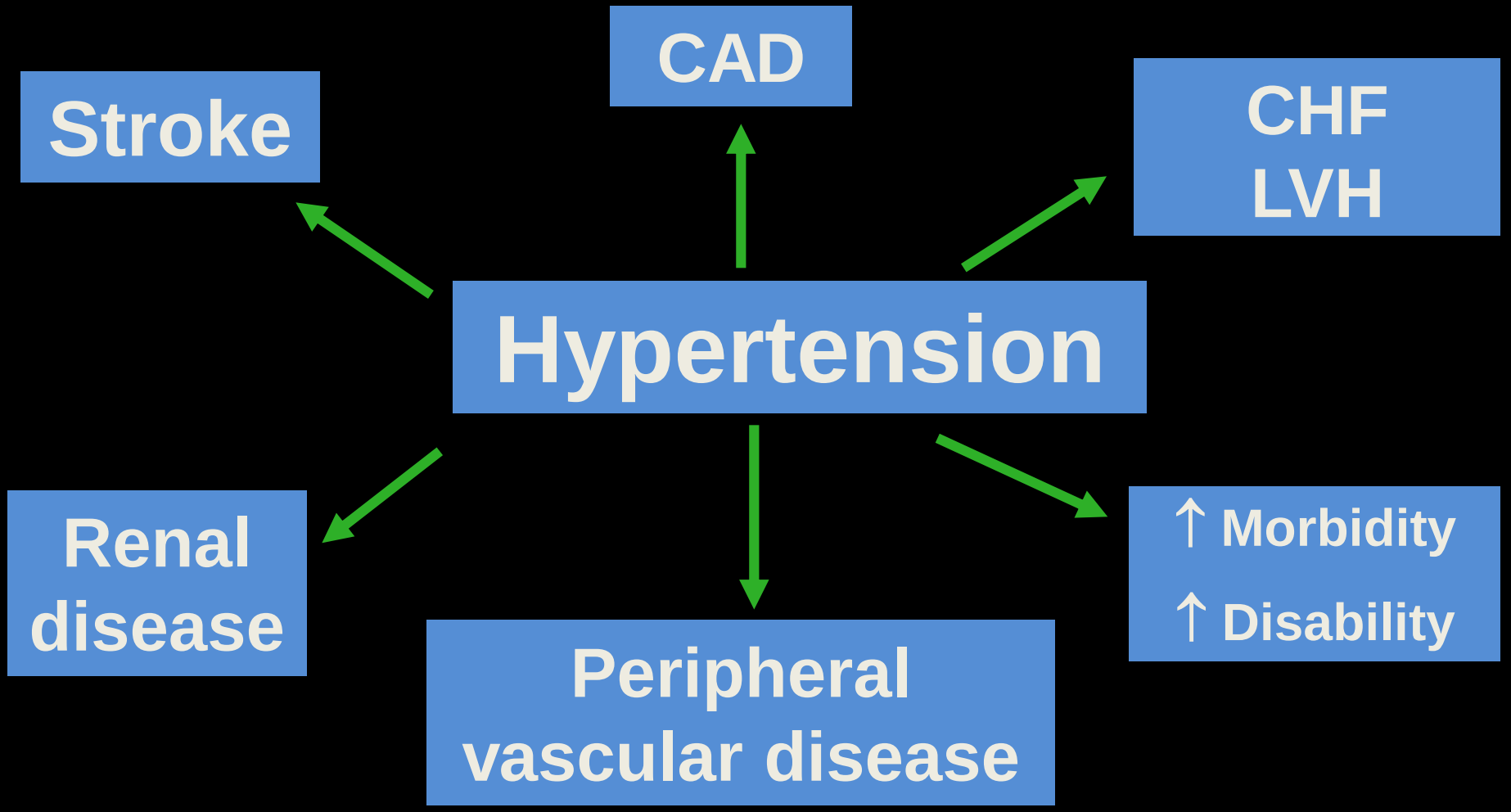
Essential Hypertension >90%




Genetic
Age
Smoking
Sex
Lack of exercise
Essential HTN
Race
Hperlipidemia
Obesity
DM
Diet


Pregnancy
Endocrine diseases
Drugs
Renal diseases
Secondary hypertension < 10%
Alcohol abuse

Hypertension: is a significant risk factor for CV and Renal Diseases



National High Blood Pressure Education Program Working Group. *Arch Intern Med.* 1993;153:186-208.

Clinical evaluation

By

1.History

2.Examination


SIMPLE OBESITY


CENTRAL OBESITY



HAND EXAMINATION



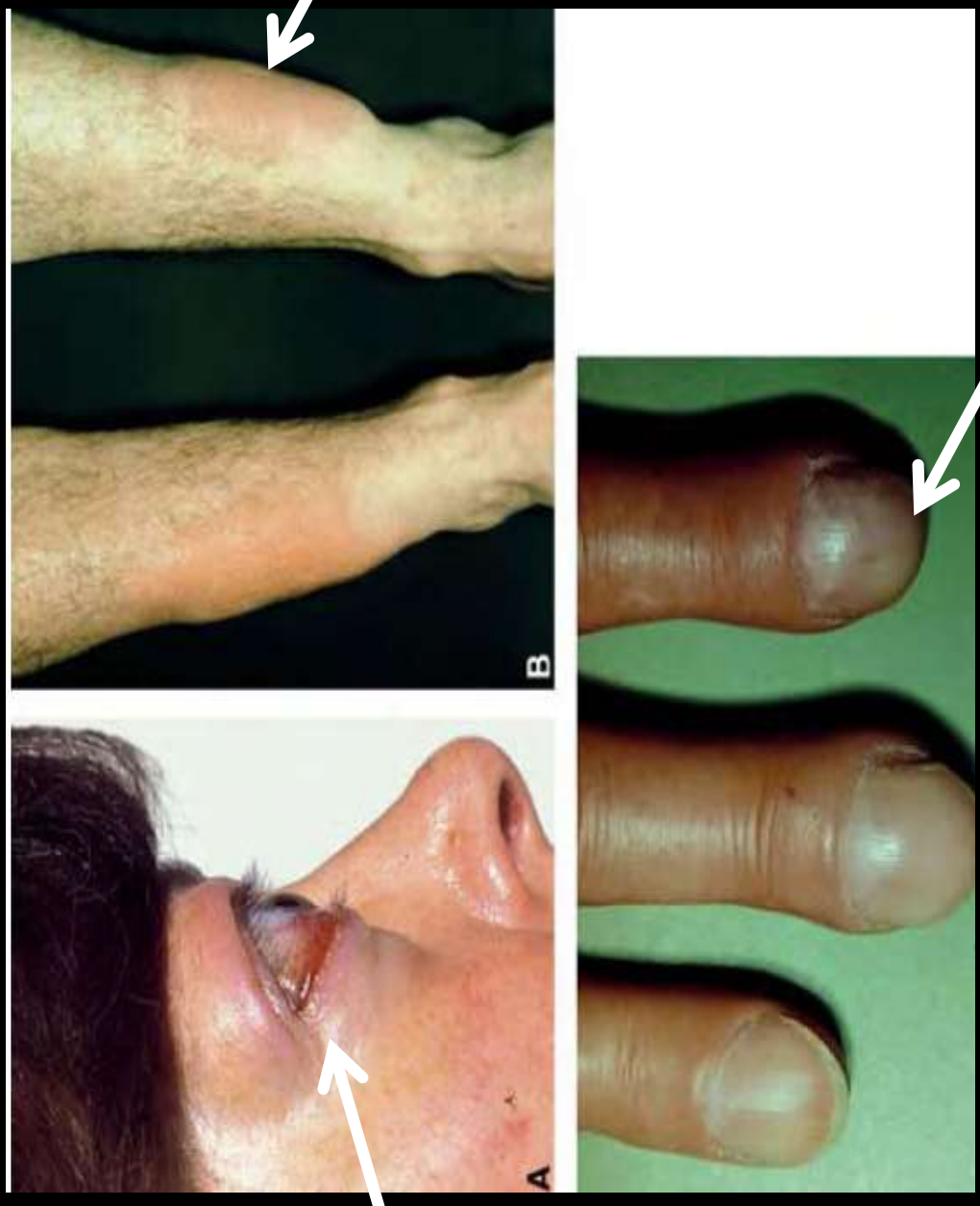

A
B
C







Pretibeal myxoedema

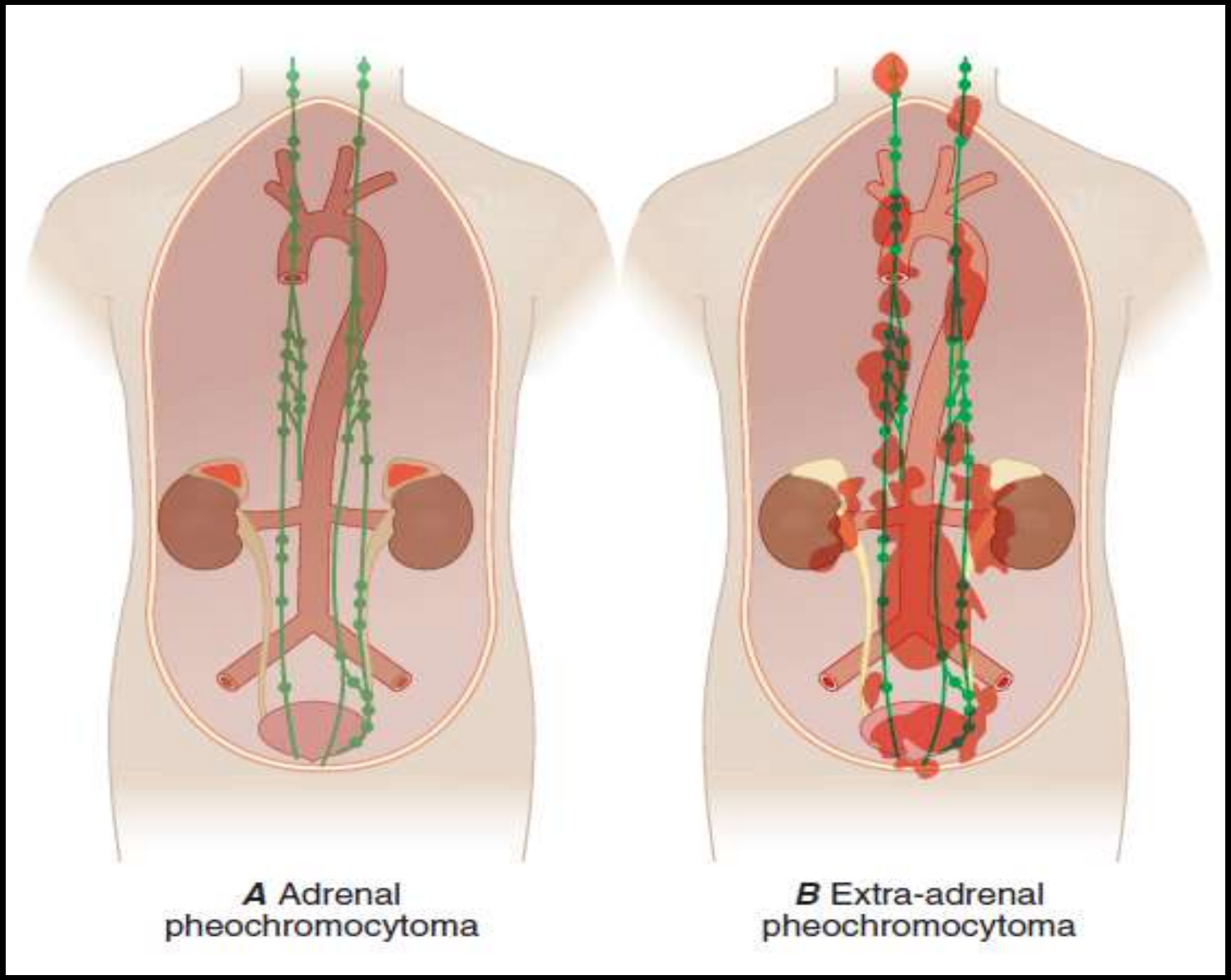


Clubbing fingers

exophthalmus



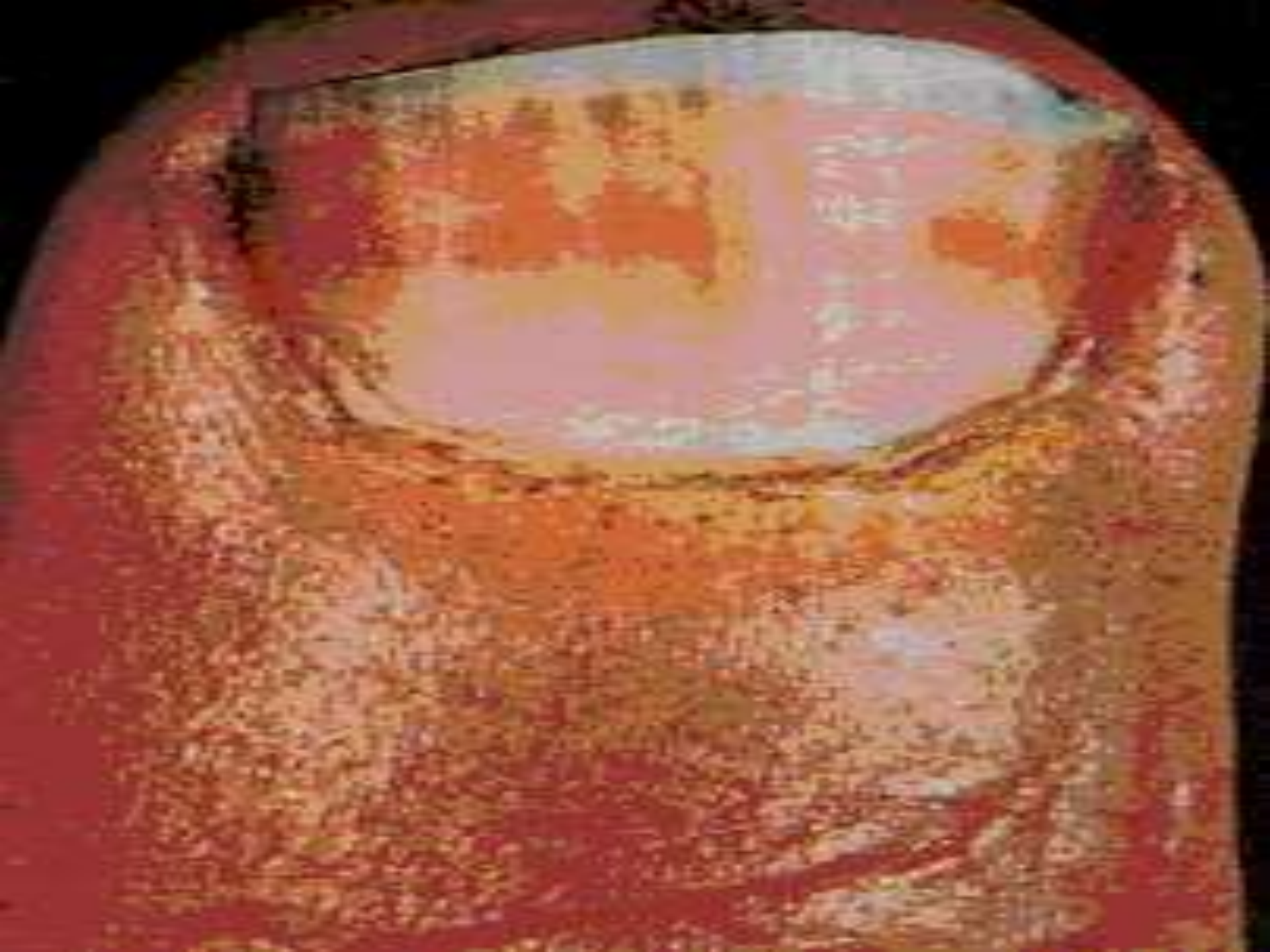




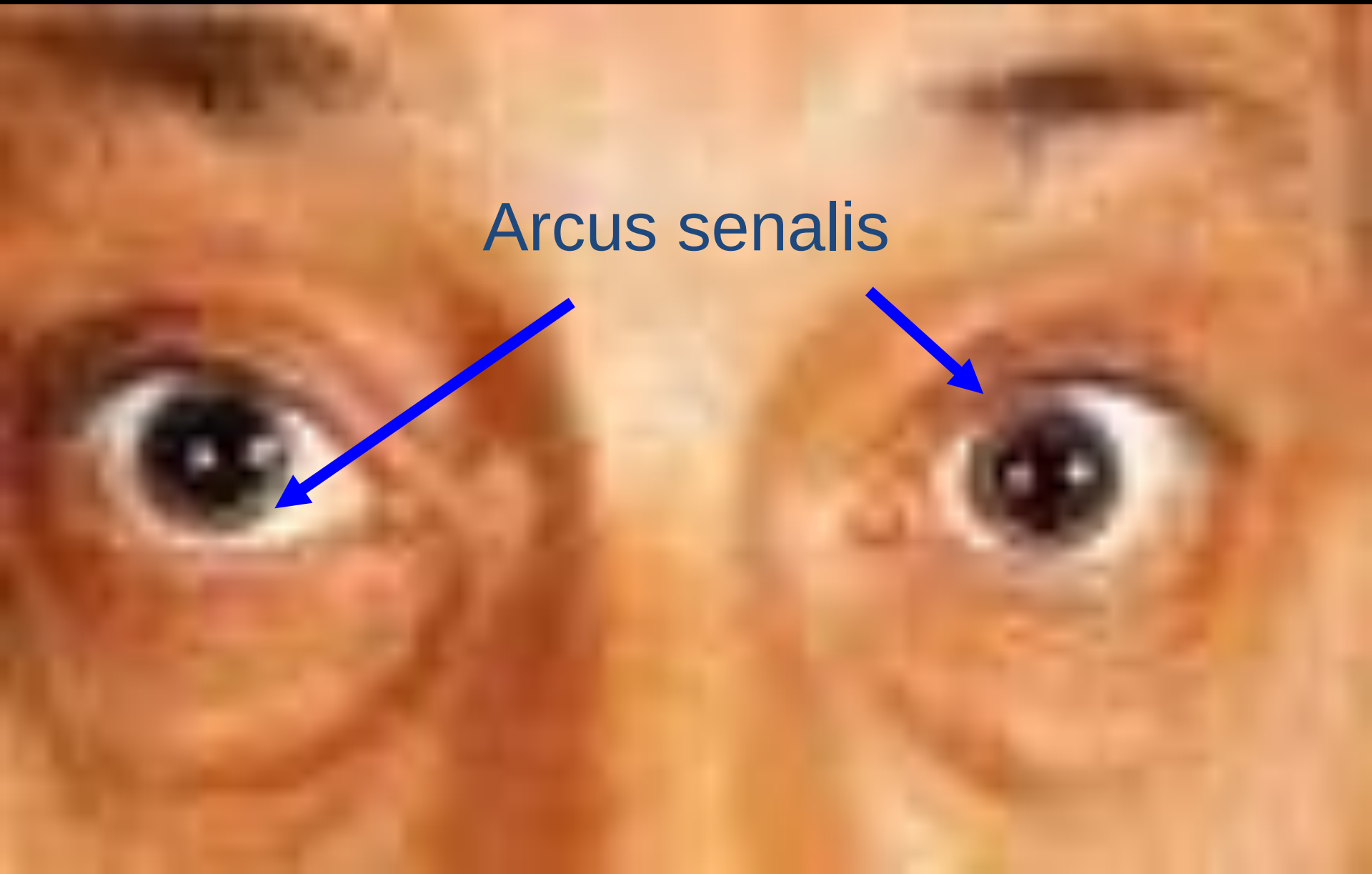
A Adrenal pheochromocytoma

B Extra-adrenal pheochromocytoma





EYE EXAMINATION




xanthelesma


xanthoma

Investigation of selected patients

Chest X-ray: to detect cardiomegaly, heart failure, coarctation of the aorta

Ambulatory BP recording: to assess borderline or 'white coat' hypertension

Echocardiogram: to detect or quantify left ventricular hypertrophy

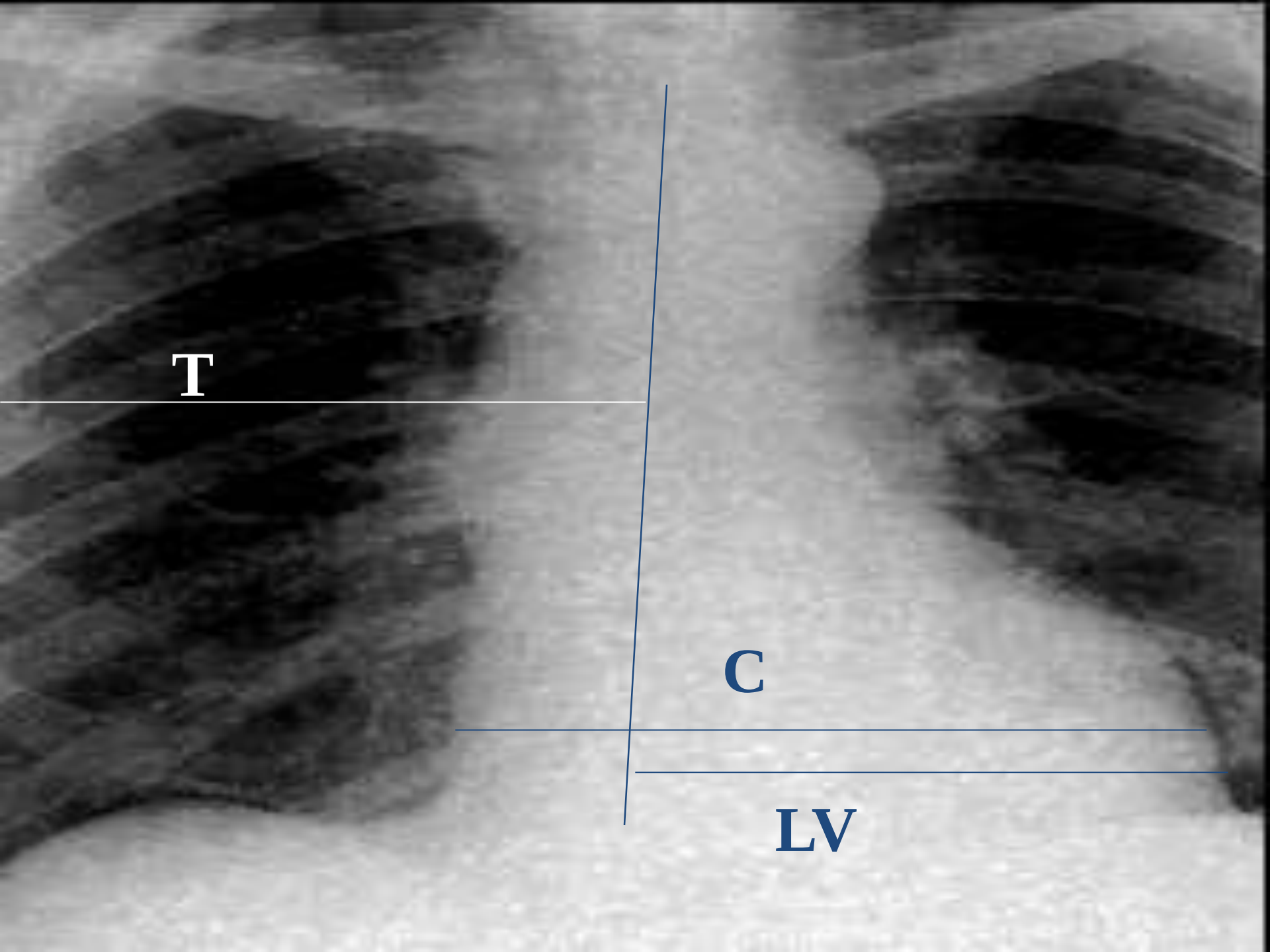
Renal ultrasound: to detect possible renal disease

Renal angiography: to detect or confirm presence of renal artery stenosis

Urinary catecholamines: to detect possible phaeochromocytoma

Urinary cortisol and dexamethasone suppression test: to detect possible Cushing's syndrome

Plasma renin activity and aldosterone: to detect possible primary aldosteronism


T
C
LV

Treatment of hypertension

The aims of treatment

1. to lower the blood pressure <140/90
2. to relief symptoms
3. to prevent target organ damage
4. to lower incidence of certain serious complications

Treatment of hypertension

- **Non pharmacological**
  (life stile modification)
- **Pharmacological**
  (drugs)

Lifestyle Recommendations for Prevention and Treatment of Hypertension

- Reduction of sodium intake
- Healthy diet
- Regular physical activity
- Maintenance of ideal body weight
- **Smoking cessation**
- Low or quitting of alcohol consumption

Pharmacological
(antihypertensive drugs)

Indications for Pharmacotherapy

Usual blood pressure threshold values for initiation of pharmacological treatment of hypertension

Condition	Initiation
	SBP or DBP mmHg
Non diabetic systolic or diastolic hypertension	≥140/90
Diabetes Chronic Kidney Disease	≥130/80
Patients with target organ damage (e.g. left ventricular hypertrophy)	≥140/90

Which drug ?

Treatment Of Secondary Hypertension

- **Try to know the cause**
- **Control the hypertension and its complications**
- **Deal with the cause**

follow up

*for compliance with treatment

*for BP control

*for complications

Hypotension

- **It is a blood pressure readings < lower normal limits (< 100/60) due to disproportion between the circulating blood volume and vascular bed**
- **There is NO disease entity called hypotension**
- **The presenting symptoms depend on the severity of hypotension**

Causes of hypotension

- **Cardiac causes** → **arrhythmia**, **CHD**, **HF**
- **Peripheral** → **volume loss**, **vasodilatation**
- **Central** → **drugs**, **psychosomatic disorder**

Clinical features of hypotension

- Excessive fatigue
- Tiredness
- Fainting or Syncopy
- Palpitation (tachycardia PR >100/m.)
- Chest pain
- Small volume pulse
- Hypotension (BP < 100/60)
- Sweating
- Cold extremities

Treatment of hypotension

- Save the life of the patient first
- Then deal with the cause