

B.Sc., CARDIAC TECHNOGY

SUBJECT : CLINICAL FEATURES AND TREATMENT RELATED TO CARDIAC TECHNOLOGY
AND BASIC LIFE SUPPORT PUZZLE

UNIT 1

Logical puzzle — *Hypertension*

Patients:

- A. 25-year-old woman taking combined oral contraceptives (OCPs)
- B. 60-year-old man with long family history of high BP
- C. 15-year-old adolescent with lower-limb claudication and delayed femoral pulses
- D. 40-year-old with intermittent severe headaches, sweating, and palpitations
- E. 50-year-old with longstanding diabetes and rising serum creatinine

Causes / Types:

- Essential (primary) hypertension
- Hypertension due to oral-contraceptive use (secondary)
- Coarctation of the aorta (secondary)
- Pheochromocytoma (secondary)
- Hypertension secondary to chronic renal (parenchymal) disease

Key clinical finding / hallmark:

- I. Persistent proteinuria and reduced GFR
- II. Episodic paroxysms of headache, sweating, palpitations (catecholaminergic spells)
- III. Higher blood pressure in arms than legs with weak/delayed femoral pulses
- IV. Longstanding systolic–diastolic hypertension with left-ventricular hypertrophy on ECG and family history
- V. Mild to moderate rise in blood pressure temporally related to starting OCPs

Clues

- 1. The teen with **delayed femoral pulses** did **not** have renal disease.
- 2. The patient whose main sign was **proteinuria with reduced GFR** had a chronic systemic disease (longstanding diabetes).
- 3. The **episodic headaches and sweating** belonged to someone whose BP change was paroxysmal — not the elderly man.
- 4. The **elderly man** had a family history of hypertension and ECG evidence of **LVH** consistent with long-standing primary hypertension.

B.Sc., CARDIAC TECHNOGY

SUBJECT : CLINICAL FEATURES AND TREATMENT RELATED TO CARDIAC TECHNOLOGY
AND BASIC LIFE SUPPORT PUZZLE

5. The young woman's raised BP started **after** she began a hormonal medication; her pattern was not paroxysmal.
6. The condition that produces **higher arm than leg BP** is congenital and typically presents in adolescence.
7. The patient with **catecholamine excess** (palpitations, sweating) corresponds to a tumor that causes secondary hypertension.
8. **Your task**

Using the clues, match each **Patient (A-E)** to its **Cause (1-5)** and the **Key finding (I-V)**.

RUBRICS

CRITERIA	DESCRIPTION	POINTS
1. Completeness	All correctly identified (A,B,C,D,E)	5 pts
2. Accuracy	No wrong answers	3 pts
4. Neatness	Clear handwriting, no erasures	2 pts
	TOTAL	10pts