

B.Sc., CARDIAC TECHNOGY

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

UNIT 3

Logical Puzzle — *Cardiomyopathy*

Patients:

- A. 35-year-old man with history of chronic alcohol use, presenting with fatigue and shortness of breath.
- B. 20-year-old athlete who suddenly collapses during sports practice; his father died suddenly at 40.
- C. 55-year-old woman with long-standing hypertension and thickened ventricular wall on echo.
- D. 40-year-old woman who recently had viral myocarditis and now has a dilated heart on imaging.
- E. 45-year-old man whose echocardiogram shows small, stiff ventricles with normal size but poor filling; has signs of systemic amyloidosis.

Types of Cardiomyopathy:

- Dilated Cardiomyopathy (DCM)
- Hypertrophic Cardiomyopathy (HCM)
- Restrictive Cardiomyopathy (RCM)

Possible Causes:

- a. Chronic alcohol toxicity
- b. Genetic mutation involving sarcomere proteins
- c. Long-standing hypertension
- d. Viral myocarditis
- e. Amyloidosis (infiltrative disease)

Key Findings / Features:

- I. Dilated chambers with reduced ejection fraction (systolic failure).
- II. Markedly thickened ventricular wall and septum, diastolic dysfunction, possible sudden death.
- III. Normal-sized ventricles but stiff walls and impaired filling (diastolic failure)

Clues

1. The **athlete** who collapsed had a **genetic cause** involving the **sarcomere**.

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2. The **hypertensive woman** had thickened ventricular walls but **normal EF**, indicating a **diastolic problem**, not dilation.
3. The **alcoholic man** and the **viral myocarditis patient** both had **dilated ventricles** and **systolic failure**, but with **different causes**.
4. The **patient with amyloidosis** had **normal-sized but stiff ventricles**, making it hard for the heart to fill.
5. **Hypertrophic cardiomyopathy** is linked to sudden death in young athletes, while **restrictive cardiomyopathy** is often due to infiltrative disease.

Your Task

Match each **Patient (A-E)** → **Cause (a-e)** → **Type of Cardiomyopathy (1-3)** → **Key Finding (I-III)**

RUBRICS

CRITERIA	DESCRIPTION	POINTS
1. Completeness	All 5 bones 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	10 pts