

(Affiliated to the Tamil Nadu Dr M.G.R Medical University, Chennai)

**B. Sc. CARDIOPULMONARY PERFUSION CARE TECHNOLOGY**

**1402 – PATHOLOGY**

**I YEAR**

**CASE STUDY BASED - PUZZLE**

**CLINICAL COLISEUM: CASE-BASED BATTLE ARENA** ?

As a pathology intern, you receive a **biopsy report of the myocardium** from a 55-year-old male.

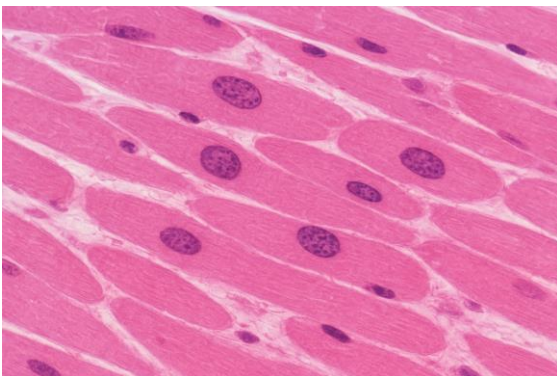
The patient has a history of **chronic hypertension** and presented with **shortness of breath and chest tightness**.

**MICROSCOPIC FINDINGS :**

Cardiac muscle fibers show **increased diameter**, enlarged nuclei, and enhanced contractile proteins.

No evidence of necrosis or inflammatory infiltrate is noted.

The number of cells remains constant.



**OPTIONS FOR MANAGEMENT**

Option	Rationale
<b>Hyperplasia</b>	Suggest that cardiac muscle cells are dividing to increase in number.
	Recommend lifestyle modification and antihypertensive therapy to reduce workload

<b>Hypertrophy</b>	on the heart and reverse excessive enlargement.
<b>Atrophy</b>	Prescribe muscle stimulation and nutrition therapy to restore lost mass.
<b>Necrosis</b>	Initiate emergency care to remove damaged myocardial tissue.

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### THE TASK :

Choose the **specific cellular adaptation** diagnosed by the findings and justify the corresponding **long-term clinical recommendation**, linking the **stimulus → cellular change → clinical management**.

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### EVALUATION AND JUSTIFICATION :

<b>Criterion</b>	<b>Marks (out of 10)</b>
Accuracy	4
Logical Reasoning / Application	3
Conceptual Understanding	2
Presentation	1
<b>Total Marks</b>	<b>10 Marks</b>

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