Cardiomyopathies – MBBS Final Year Handout

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Section 1: Dilated Cardiomyopathy (DCM)

Aspect	Details
Definition	Dilation and impaired contraction of one or both ventricles, causing systolic dysfunction and reduced cardiac out
Etiology	Idiopathic (most common), genetic (autosomal dominant mutations), viral myocarditis (Coxsackievirus), toxins (a
Clinical Features	Symptoms: Fatigue, dyspnea, orthopnea, reduced exercise tolerance. Signs: Tachycardia, displaced apex beat, S3 gallop, signs of congestive cardiac failure.
Diagnosis	Echocardiography: Dilated ventricles, low ejection fraction. Chest X-ray: Cardiomegaly, pulmonary congestion. ECG: Non-specific changes, arrhythmias.
Management	Pharmacological: ACE inhibitors, beta-blockers, diuretics, anticoagulants if low EF. Non-Pharmacological: Lifestyle changes with fluid/salt restriction. Advanced: Cardiac resynchronization therapy (CRT), heart transplantation.

Section 2: Hypertrophic Cardiomyopathy (HCM)

Aspect	Details
Definition	Asymmetric hypertrophy of myocardium (usually septum) causing impaired filling and LV outflow tract obstructio
Etiology	Genetic, often autosomal dominant, involving sarcomeric protein mutations.
Clinical Features	Symptoms: Dyspnea, chest pain, syncope (often exertional). Signs: Harsh systolic murmur at left sternal border, louder with Valsalva or standing.
Diagnosis	Echocardiography: Asymmetric septal hypertrophy, LVOT obstruction. ECG: LVH, deep Q waves in lateral leads.
Management	Pharmacological: Beta-blockers, calcium channel blockers (verapamil), antiarrhythmics (amiodarone). Non-Pharmacological: Avoid strenuous exercise. Surgical: Septal myectomy or alcohol septal ablation; ICD for high-risk patients.

Section 3: Restrictive Cardiomyopathy (RCM)

Aspect	Details
Definition	Reduced ventricular compliance leading to impaired diastolic filling, with normal or near-normal systolic function
Etiology	Idiopathic, infiltrative diseases (amyloidosis, sarcoidosis), endomyocardial fibrosis, storage diseases (hemochro
Clinical Features	Symptoms: Dyspnea, fatigue, peripheral edema. Signs: Elevated JVP, hepatomegaly, ascites.
Diagnosis	Echocardiography: Normal ventricular size, biatrial enlargement, restrictive filling. Cardiac MRI: Identifies infiltrative causes. ECG: Low voltage QRS, possible atrial fibrillation.
Management	Pharmacological: Diuretics, ACE inhibitors, beta-blockers. Non-Pharmacological: Fluid restriction. Treat underlying cause (e.g., amyloidosis-specific therapy).