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ANGINA PECTORIS :⇒

⇒ A discomfort in the chest and adjacent area due to myocardial ischaemia.

⇒ It is substernal pain or heaviness, radiating to both arms or ulnar border of the left arm, jaw, teeth, occipital region or epigastrium.

Canadian Heart Association -

Grading of Angina :-

Grade - I - Angina on severe exertion

Grade - II - Angina on walking uphill or climbing more than one flight of ordinary stairs.

Grade - III - Angina on walking on level ground or climbing one flight of ordinary stairs.

Grade - IV - Angina at rest.

Characteristics of Anginal Pain :⇒

Site :⇒ Substernal

Nature :⇒ Pressing, squeezing, constricting, a band across the chest, a weight in the centre of the chest. The patient cannot Pinpoint the site of Pain.

Radiation :⇒ To both the shoulders, epigastrium, back, neck, jaw, teeth. Anginal pain can radiate in all directions but more commonly radiates to the left shoulder and ulnar aspect of the left arm.

Duration :⇒ 5 to 15 minutes

Aggravating Factors :⇒ Exertion, emotion, after a heavy meal, or exposure to cold.

Relieving Factors :⇒ Rest, nitrates

Types or clinical patterns of angina pectoris :⇒

Stable or Typical angina :⇒ This is the most common pattern. Stable or typical angina is characterised by attacks of pain following physical exertion or emotional excitement and is relieved by rest. Cold weather, smoking, emotional upset, high altitude and straining at stools can also aggravate it. There is depression of ST segment in the ECG.

Prinzmetal's variant angina :⇒ This pattern of angina is characterised by pain at rest and has no relationship with physical activity. ECG shows ST segment elevation due to transmural ischemia. These patients respond well to vasodilators like nitroglycerin.

Unstable or Crescendo angina or Pre-infarction angina or acute coronary insufficiency : ⇒

This is the most serious Pattern of angina. It is characterised by more frequent onset of pain of Prolonged duration and occuring often at rest.

The following three patient groups may be said to have unstable angina pectoris :-

① Patients with new onset (< 2 months) angina that is severe and / or frequent (>) 3 episodes / d

② Patients with accelerating angina, that is, those with chronic stable angina who develop angina that is distinctly more frequent, severe, Prolonged or precipitated by less exertion than previously.

③ Those with angina at rest.

Distinction between unstable angina and acute MI :-

Acute MI ⟶ on ECG changes ⟶ ST segment elevation
Unstable angina ⟶ on ECG — non - ST segment elevation.

Nocturnal :⇒ Angina appears in the middle of the night due to left ventricular failure which may be precipitated by dreams causing release of catecholamines a full urinary bladder or transient hypoglycemia.

Causes of Angina Pectoris :⇒

1. Coronary artery disease.
2. Aortic stenosis
3. Aortic regurgitation
4. Hypertrophic obstructive cardiomyopathy
5. Systemic hypertension
6. Severe Anaemia
7. Connective tissue disorders (due to arteritis)
8. Extreme tachyarrhythmias.

Diagnostic Tests :⇒

→ ECG
→ Cardiac Enzymes (CK-MB, Trop. T / Trop. I)
→ Stress testing

Management :⇒

1. Treatment of acute attack :-
   (i) Di-Nitrates :- Glycerine trinitrate 0.5 mg or isosorbide dinitrate 5 mg sublingually relieves the attacks in 2-5 minutes (Mononitrates are contraindicated)
   (ii) Beta-blockers or Calcium channel blockers :- May be used to decrease Pain.

(2) Prevention of anginal attacks : ⇒

(i) Modification of life style :- Life style should be changed to avoid Precipitating factors, Exertion, especially following meals, walking uphill against the wind must be avoided.

(ii) Rest and Exercise

(iii) Control of risk factors :- The risk factors must be controlled like hypertension, diabetes and hyperlipidemia or smoking.

(iv) Tranquilizers :- Diazepam 5-10mg - 6-8 hourly.

(v) Coronary vasodilators :-

(a) Nitrates :- Isosorbide dinitrate 5mg, 6-8 hourly may be given Sublingually.

(b) Calcium antagonist drugs :- Nifedipine - 10mg

(vi) Beta blockers :- Propranolol or oxprenolol - 40mg, 6-8 hourly
Atenolol or Metaprolol - 50mg

(vii) ACE Inhibitors / Angiotensin receptor blockers - eg.- Ramipril.

(viii) Antiplatelet drugs :- Low dose Aspirin (75-150mg) per day.

(ix) Anticoagulation :- In unstable angina, unfractionated I.V. heparin 5000 units followed by 1000 units/ hour can be given.