

Ischemic heart disease (IHD)

Ischemia can result from:

reduction in coronary blood flow
atherosclerosis (90 % of cases)

increased demand (e.g.,
tachycardia or hypertension)

diminished oxygen-carrying
capacity (e.g., anemia, CO
poisoning)

Angina pectoris vs MI

Angina pectoris: pain < 20 minutes and relieved by rest or nitroglycerin

MI: pain lasts > 20 minutes to several hours and is not relieved by nitroglycerin or rest

Heart disease is the leading cause of morbidity and mortality worldwide

imbalance between cardiac blood supply (perfusion) and myocardial oxygen demand

clinical syndromes of IHD:

Angina pectoris; pain, insufficient to lead to death of myocardium

Acute myocardial infarction (MI)

Chronic IHD; progressive cardiac decompensation (heart failure) following MI

Sudden cardiac death (SCD); can result from a lethal arrhythmia

Types of Angina pain

stable/ classic/ effort angina

- episodic pain only with increased demand
- associated with critical atherosclerotic narrowing
- relieved by rest (reducing demand) or by drugs (e.g. nitroglycerin)

unstable/ crescendo angina

- critical stenosis with superimposed Acute Plaque Change:
 - 1-plaque disruption
 - 2- partial thrombosis (non-occlusive)
 - 3- distal embolization
 - 4-vasospasm
- increasing frequency of pain, precipitated by less exertion
- more intense and longer lasting than stable angina
- Usually precedes more serious, potentially irreversible ischemia, thus it is called: pre-infarction angina

variant/ Prinzmetal angina

- severe coronary vasospasm
- occur at rest or sleep
- Vessels without atherosclerosis can be affected
- Treatment: vasodilators (nitroglycerin or calcium channel blockers)

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