



- I. Definition
  - a. Heart attack (coronary thrombosis, myocardial infarction) is a common clinical condition that is associated with the acute formation of a blood clot usually superimposed on a coronary artery which has some pre-existing degree of arterial wall obstruction (see above). This process results in no blood flow to a part of the heart muscle leading to death of some heart muscle downstream from the coronary artery occlusion. Normally there are two main coronary arteries in people; their function is to deliver oxygenated blood to the heart muscle. When gradual blockages develop in these vessels, the chance of heart attack increases.
- II. Background facts
  - a. Approximately 800,000 people in the USA experience heart attack annually; of these about 20% die. One-half of deaths occur within one hour of the onset of symptoms of distress.
  - b. The majority of early deaths are caused by serious arrhythmia (very abnormal heart-beat patterns) or, to a lesser degree, failure of the pumping strength of the heart (heart failure).
- III. Associated risk factors
  - a. Hyperlipidemia (high cholesterol-related problems)
  - b. Diabetes
  - c. smoking
  - d. hypertension
  - e. positive family history of heart disease
- IV. Predisposing characteristics
  - a. often undetected inflammation in your hearts coronary arteries
  - b. emotional or environment stresses
  - c. type A personalities (deadline-driven, compulsive)
- V. Signs and Symptoms
  - a. In approximately 60% of people, a precursor period of “feeling badly” occurs. This period of hours or days may reveal atypical chest, jaw or arm pains, difficulty breathing, extreme weakness, nausea/vomiting.

- b. The classical findings in heart attack are: severe chest pain, sweating, sense of impending doom
- VI. Early screening tests ( to determine if you have a heart attack)
  - a. Electrocardiograms (ECG) and heart- specific blood tests usually separate heart attack from other, less severe medical diagnoses.
- VII. Definitive Diagnosis
  - a. Serial ECG's and serial heart- specific blood tests
  - b. Echocardiogram, especially helpful when ECG is non-diagnostic
  - c. Radionuclide imaging following intravenous injections of radioactive tracers support the diagnosis.
  - d. Cardiac catheterization is the “gold standard” to objectively determine the degree of obstruction in the coronary arteries.
- VIII. Treatment
  - a. Early clot buster (thrombolytic) therapy is indicated for certain kinds of heart attacks. Thus, time is of the essence, when seeking medical care. Early thrombolytic therapy can sometimes reduce the size of your heart attack and improve your prognosis.
  - b. Admission to the hospital coronary care unit for aggressive medical management
  - c. Good medical treatments
    - Oxygen
    - Morphine (relieve pain and stress)
    - Aspirin (antiplatelet therapy)
    - Other specific drug treatments (control blood pressure / heart rate)
  - d. careful risk assessment during recovery phase
  - e. observant post discharge follow- up and rehabilitation