Ischemic Heart Disease (IHD) (AKA Coronary Artery Disease (CAD), Coronary Heart Disease)

Epidemiology

Most cases have long, asymptomatic progression prior to appearance of symptoms -> IHD is 90% of cases caused by reduced blood flow due to obstructed atherosclerotic lesions in coronary arteries

Often presents with atrial fibrillation due to left atrial enlargement / CHF

Most common; leads to dysfunction, cardiac dilation, CHF, and sometimes sudden death

Prognosis improved by implantation of a pacemaker or an automatic cardioverter defibrillator, which senses and

Acute MI is most common trigger for fatal arrhythmias (ischemia-induced electrical instability distant from

50% of cardiac transplant recipients

In cases of severe obstructive coronary artery disease, may

Paroxysmal, recurrent attack of substernal or precordial chest discomfort (constricting, squeezing, choking, pain)

Pathology 12: The Heart (Incomplete (Ischemic HD TO Valvular HD))

Causd by autosomal-dominant mutations in genes that are required for normal ion channel function

Microscopy reveals myocardial hypertrophy, diffuse muscle disorders and diabetes

KCNQ1 -> decreased potassium currents

Factors associated with poor prognosis: advanced age, female, diabetes mellitus, previous MI (b/c of

Declining mortality, 50% of deaths occur in 1 hour -> most of these cases never reach hospital

Unchanged CK-MB and troponin over 2 day period excludes Dx of MI

CK-MB is sensitive, but not specific; detectable at 2-4 hours, peaks at 24 hours, lasts for 72 hours

Troponins T and I are most specific for myocardial damage, but take 2-4 hours to be detectable, peaks at

Ischemia -> cessation of aerobic metabolism -

Tissue factor activates coagulation pathway, increasing size of thrombus

Vasospasm initiated by mediators released from platelets

Equal risk for blacks/whites; men more at risk than women until menopause -> after decrease of estrogen,

Failure; rupture is not a concern

Mural thrombosis -> thromboembolism

Factors associated with good prognosis: young age, male, hypertension, previous MI, smoking, diabetes

Improved outcomes in past 20-30 years due to prevention (modification of risk factors like smoking,

Ketone dehydrogenase

Genetic variants that modify leukotriene B4 metabolism)

Arrhythmias: caused by myocardial irritability and/or conduction disturbances, include sinus bradycardia,

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