

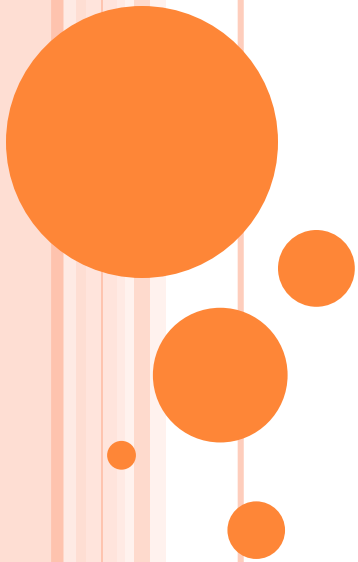
LEC 2

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Coronary Heart Diseases (CHD)



OBJECTIVES

By the end of this session, students will be able to:

- Define CHD.
- Know the modifiable risk factors of CHD.
- Know the non-modifiable risk factors of CHD.
- Understand the preventive strategies of CHD.



CORONARY HEART DISEASES (CHD) (ISCHAEMIC HEART DISEASES (IHDS))

- Coronary heart diseases is considered the world's modern (epidemic) as stated by WHO.

DEFINITION OF CHD :

It can be defined as the impairment of the heart function due to inadequate blood flow to the heart, compared to its needs, caused by obstructive changes in the coronary circulation to the heart.

CHD MAY MANIFEST ITSELF IN MANY PRESENTATIONS:

- a) Angina pectoris on effort.
- b) Myocardial infarction.
- c) Heart irregular rhythms.
- d) Cardiac failure.
- e) Sudden death.

CAUSES

1- Reduced blood flow by mechanical obstruction in the coronary artery due to:

- Atheroma (the most common)
- Thrombosis
- Spasm
- Embolus
- Coronary arteritis(e.g. SLE)



- 2- Decrease in the flow of oxygenated blood due to :
anaemia or hypotension.

- 3- Increase demand for oxygenated blood
 - 1- increase cardiac output
 - 2- myocardial hypertrophy



RISK FACTORS

The major risk factors are

- 1-Hypertension
- 2-High Serum cholesterol
- 3-smoking



OTHER RISK FACTORS

- Age: the disease increase with age
- Gender: men have higher incidence than premenopausal women . After menopause the incidence is the same
- Family history : it is uncertain if it is an independent factor
- Diet: - increase saturated fat intake



- Diabetes mellitus :
M.I is 3-5 times as likely. And women with D.M lose their premenopausal protection from C.H.D
- Sedentary life (obesity)
- Genetic factors
- Coagulation factors
- Depression – social isolation- worry –and hostility have been proved to be risk factors



THE MAJOR RISK FACTORS

1. SMOKING:

- Major CHD risk factor.
- responsible for 25% deaths under 65 men.
- The risk is directly related to Number of cigarettes consumed/duration of smoking.
- Synergistic with other risk factors

2. HYPERTENSION:

- Accelerates the atherosclerotic process, especially if hyperlipidaemia present
- DBP(diastolic blood pressure) is a better predictor of CHD than SBP(systolic blood pressure).
- However, both are important risk factors.

3. HIGH SERUM CHOLESTEROL:

- Population with CHD have high serum cholesterol
- Cholesterol is important risk factor for CHD
- **LDL(low density lipoprotein)** most directly related to CHD.

LIPOPROTEIN CLASSIFICATION

LDL Cholesterol (mg/dL)

(LDL =low density lipoprotein)

<100	Optimal
100–129	Near optimal/above optimal
130–159	Borderline high
160–189	High
≥190	Very high

LIPOPROTEIN CLASSIFICATION (CONTINUED)

HDL Cholesterol (mg/dL)

<40	Low
≥60	High

LIPOPROTEIN CLASSIFICATION (CONTINUED)

Total Cholesterol (mg/dL)

<200	Desirable
200–239	Borderline high
≥240	High

ELEVATED TRIGLYCERIDES

Classification of Serum Triglycerides

- Normal <150 mg/dL
- Borderline 150–199 mg/dL
- High 200–499 mg/dL
- Very high \geq 500 mg/dL

SUMMARY TO RISK FACTORS OF CHD:

- Multifactorial.
- The greater the factors present the more CHD.
- Non- modifiable factors : age, sex (male), Family History, genetic factors.
- Modifiable factors: smoking, hypertension, cholesterol , diabetes , obesity, sedentary habits ,stress ,and physical inactivity).

CONTROL AND PREVENTION



PREVENTION OF CHD:

- CHD is preventable.

I. Primary prevention:

1. Control of risk factors among populations:

a) Dietary changes:

- Reduction of fat intake (saturated, cholesterol)
- Avoid alcohol consumption.

b) Smoke free society.

c) Blood pressure:

d) Physical activity.

2. Identification of high risk groups: specific advice.

Identify high risk groups:

Intervention can only start once those at high risk have been identified by means of simple tests such as **blood pressure** and serum **cholesterol** measurement. This also include those who **smoke, with a strong FH, diabetes and obesity and young women using oral contraceptives.**

Once identified those at high risk the next step will be to **bring them under preventive care** and motivate them to take positive action against all the identified risk factors.



II. Secondary prevention:

Prevent recurrence and regression of CHD:

- a) Screening high risk groups & suitable Rx (treatment).
- b) Drugs, coronary surgery, pace- makers.. etc.
- c) Control of risk factors i.e. smoking, HTN, DM, diets, exercise... etc.

○ III Tertiary prevention:

Rehabilitation of patients with irreversible limitations of cardiac function through:

- changes in behavior, habits, life- styles & diets.
- use of drugs.
- occupational rehabilitation.
- control of risk factors.
- psychological rehabilitation.

Thank you

