



## SNS COLLEGE OF PHARMACY AND HEALTH SCIENCES

Sathy Main Road, SNS Kalvi Nagar,  
Saravanampatti Post, Coimbatore - 641 035,  
Tamil Nadu.



### ATHEROSCLEROSIS

#### DEFINITION

Also called as Atherosclerotic Cardiovascular disease, which is a coronary artery disease.

Atherosclerosis is a disease in which the artery narrows and hardens due to build up of fats, cholesterol and other substances in the artery wall.

Build of substances leads to formation of plaque. This causes obstruction of blood flow to the heart.

#### SYMPTOMS

- Vomiting
- Anxiety
- Angina
- Coughing

#### Risk Factors

- Hypertension
- Diabetes mellitus
- Dyslipidemia
- Age
- Sex
- Family history
- Smoking/ alcohol

#### COMPLICATIONS

- Coronary artery disease
- Stroke
- Peripheral vascular disease
- Kidney problems

#### EPIDEMIOLOGY

- About 50% of the population is affected with the disease.
- Atherosclerosis is a leading cause of death worldwide.

#### PATHOGENESIS

Normal artery which supplies blood to the heart ( myocardial muscle) for it's normal function.

Artery with plaque cause obstruction of blood to the myocardial cells and causes ischemia of muscle cell which leads to ischemic heart disease, myocardial infarction.

A)

Endothelial Cell

Smooth muscle

B)

Monocytes

LDL

Entry of LDL from lumen to intima layer

Oxidation of LDL

Activation of endothelial Cell

C)

Oxidized LDL with macrophages form foam cell

Smooth muscle migration to intima layer

Formation of collagen

D)

Accumulation of more foam cells

Activation of endothelial Cell

Rupture of foam cells

Formation of thrombus by activating platelets

Leads to obstruction of blood flow to the heart

## **DIAGNOSIS**

- Angiography

## **TREATMENT**

Use of Anti-hyperlipidemic drugs such as statins

Statins are HMG CoA- reductase inhibitors which inhibit the synthesis of cholesterol

- Simvastatin
- Fluvastatin
- Rosuvastatin
- Atorvastatin
- Lovastatin
- Pitavastatin
- Pravastatin