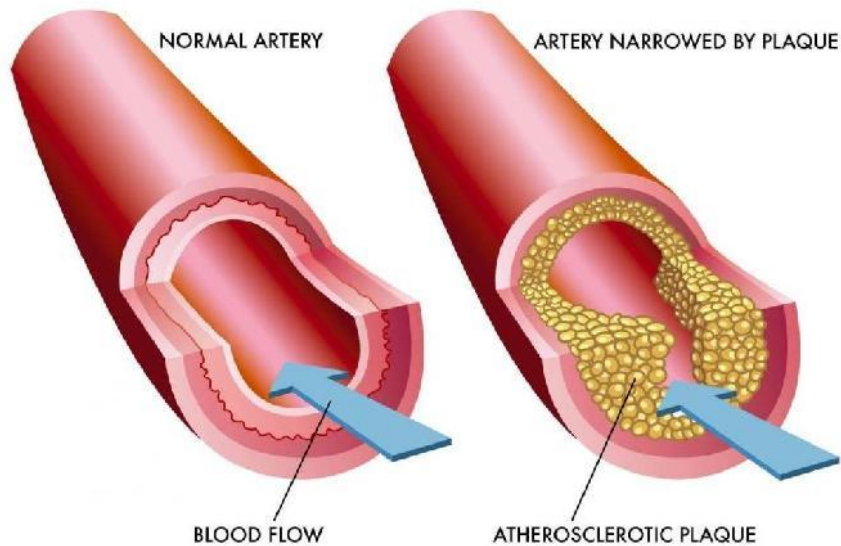


Atherosclerosis

- Atherosclerosis or atheroma
- Patchy focal disease of arterial wall
- Patchy thickening of the intimal layer of arterial wall
- Due to lipid deposition or fibrosis tissue formation



Major risk factors

- Age
- Family history & genetics
- Racial risk – whites are at greater risk than blacks
- Excess lipid deposition
- Hypertension
- Smoking
- Diabetes mellitus

Minor risk factors

- Obesity
- Lack of exercise
- Sedentary life style
- Use of oral contraceptives
- Alcohol consumption
- Stressful life
- Dietary factors
- Viral infection

Symptoms

Symptoms vary depending on the organ involved

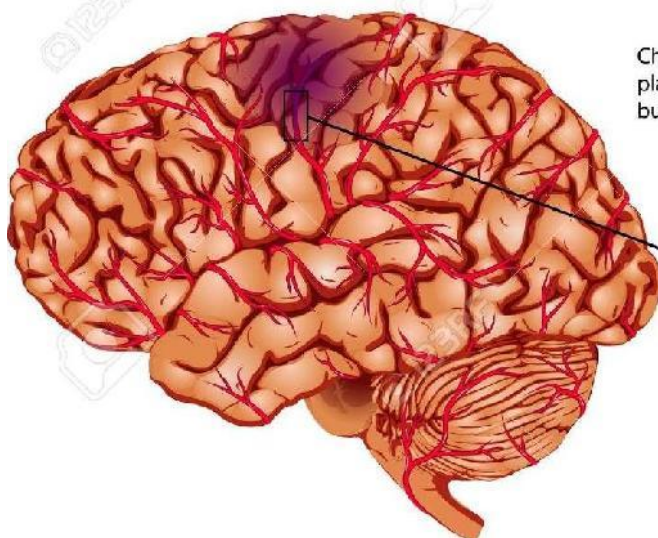
Heart

- Restricted blood supply to heart
- Angina & Myocardial infarction
- Shortness of breath
- Sweat
- Nausea
- Dizziness
- Palpitation

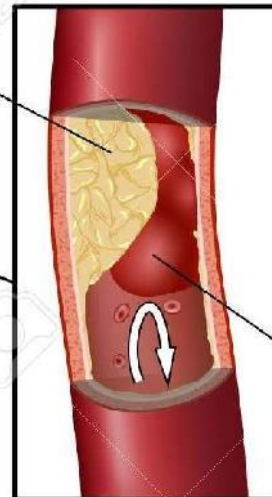


Brain

- Narrowing of arteries supplying brain
- Causes ischemic attacks
- Head ache
- Paralysis of one side of the body
- Numbness in various parts
- Visual disturbance
- Stroke



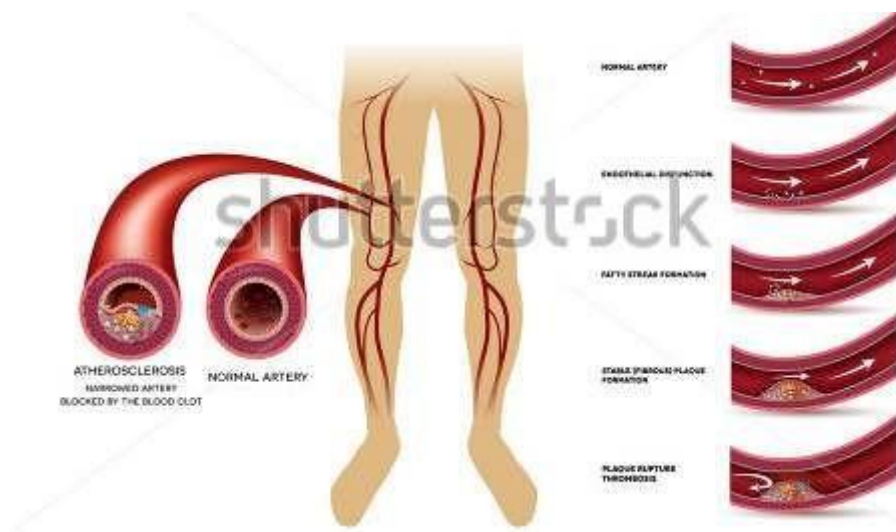
Cholesterol
plaque
buildup



Blood clot
blocks artery

Leg

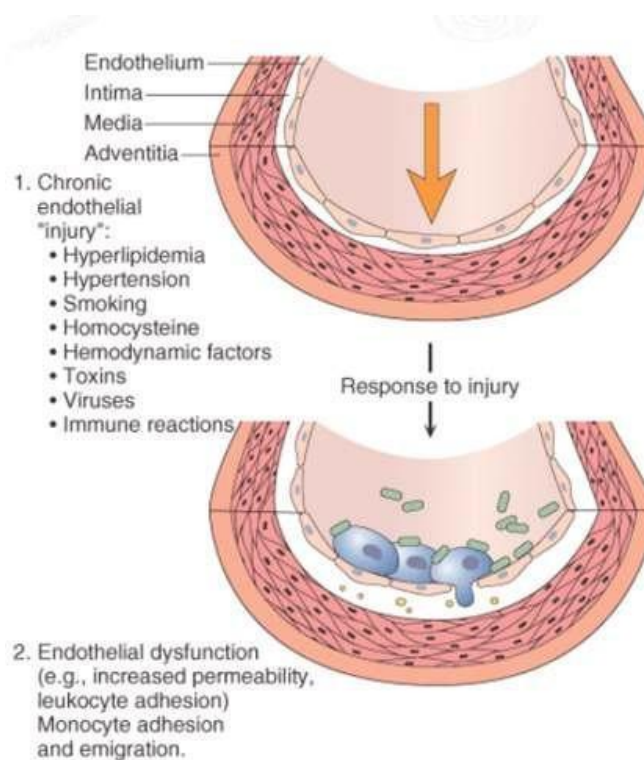
- Narrowing of artery supplying leg
- Pain in the leg
- Hair loss in leg



Pathogenesis

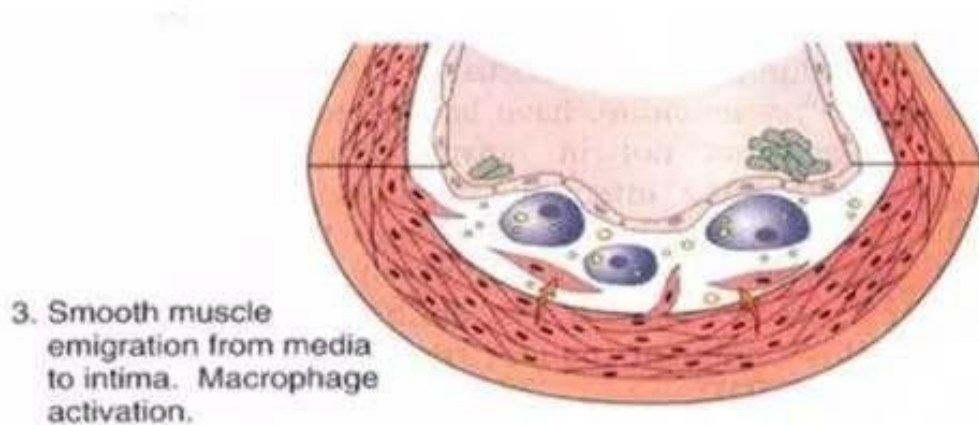
Endothelial injury

- Atherosclerosis is initiated by injury of endothelium
- In large & medium size arteries
- Causes include smoking
- Hypertension
- Chronic hyperlipidemia



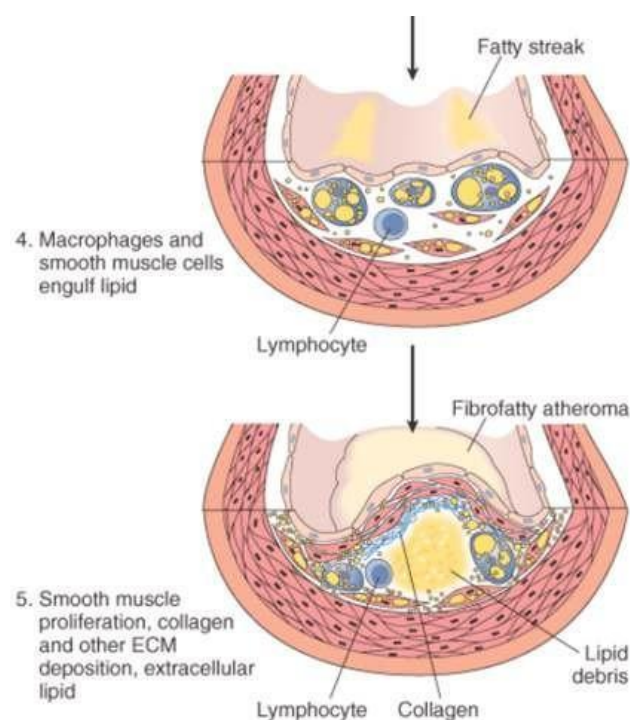
Internal smooth muscle cell proliferation

- Subsequent to endothelial injury
- Following disruption of endothelial layer
- Smooth muscle cell of blood vessels
- Cells of endothelium
- Proliferate under influence of – PGDF, EDGF, TGF β
- More synthesis of matrix protein

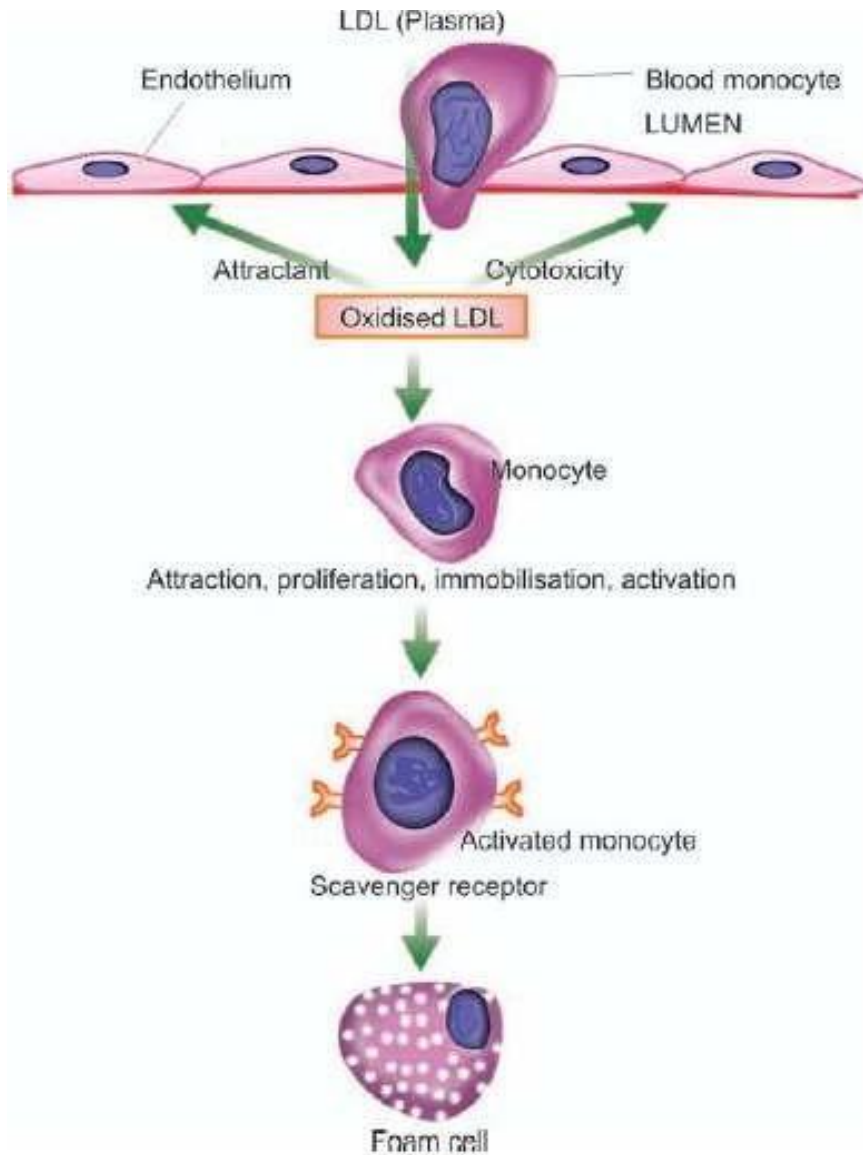


Lipoprotein entry into intima

- LDL from blood enters intima & get oxidized
- Oxidized LDL attracts monocytes
- Activates monocytes to macrophages
- Combination of oxidized LDL & macrophages - Lipid laden foam cells
- Major factor contributing to plaque formation



Mechanism involved in the formation of Foam cells



Summary

- Atherosclerosis or atheroma is a patchy focal disease of arterial wall
- Patchy thickening of the intimal layer of arterial wall due to lipid deposition or fibrosis tissue formation
- The main mechanism involved in the development of atheroma is endothelial injury
- Endothelial injury is followed by proliferation and formation of foam cells