#### **Arteriosclerosis**

#### 3. Atherosclerosis

inflammatory process in endothelial cells of vessel wall associated with retained low- density lipoprotein (LDL) particles

most frequent and clinically important pattern of arteriosclerosis

characterized by intimal lesions =atheromas (atherosclerotic plaques)

atheromatous plaque = raised lesion with a core of lipid (cholesterol and cholesterol esters) covered by a firm, white fibrous cap

#### progression:

- Aneurysm and rupture
- Occlusion by thrombus
- Critical stenosis

## $\label{types} \textbf{Types of plaque}$

1. Vulnerable

Thick fat core/Thin fibrous cap/More inflammation

2. Stable

Thin fat core/Thick fibrous cap/less inflammation

#### Definition:

- Hardening of the arteries
- Arterial wall thickening and loss of elasticity

# patterns are recognized, with different clinical and pathologic consequences:

- 1. Arteriolosclerosis
- 2. Mönckeberg medial calcific sclerosis
- 3. Atherosclerosis

#### 1. Arteriolosclerosis

affects small arteries and arterioles

associated with hypertension and/or diabetes mellitus

### 2. Mönckeberg medial calcific sclerosis

do not encroach on vessel lumen and are usually not clinically significant

calcific deposits in muscular arteries

typically in persons > age 50

radiographically visible

palpable vessels

# Formation of atheromatous plaque

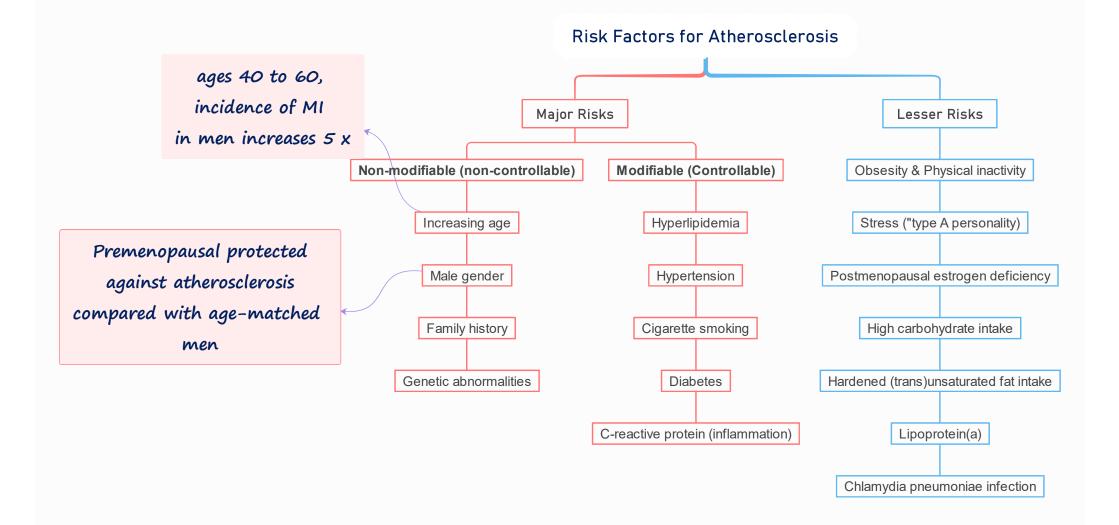
Chronic endothelial injury

**Endothelial dysfunction** 

Macrophage activation and smooth muscles recrutiment

Macrophage and smooth miscles engulf lipids

Smooth muscle proliferation, collagen and other ECM deposition, extacelluar lipid



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