

ATHEROSCLEROSIS

- progressive disease of **ARTERIES**, accumulation of **LIPIDS and FIBROUS TISSUE** in tunica intima of vessels
- primary cause of **CORONARY HEART DISEASE** and **STROKE**
- leads to **MYOCARDIAL ISCHAEMIA**

1. Mechanism of Atherogenesis

- Endothelial dysfunction leading to **reduced NO** synthesis
- Damaged endothelial express **adhesion molecules (VCAM1)**, cause inflammatory cells to attach
- Inflammatory cells move into intima, attracted by chemotactic stimuli eg MCP1 & differentiate into macrophages
- Macrophages **ingest oxidised LDL** (levels high in blood) via **scavenger** receptors and form **foam cells**.
- Foam cells accumulate, **apoptosis** explode and leave lipid core
- Proliferation & matrix formation by intimal “synthetic” smooth muscle cells forms **fibrous cap**
- Thrombosis caused by rupture of fibrous cap (eg by proteolytic enzymes released by inflammatory cells)