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Pathology Question:

What is atherosclerosis?

Report:

Arteriosclerosis - is a thickening, hardening, and loss of elasticity of the arterial walls.
Atherosclerosis - arteriosclerosis in the intima of the large and medium sized arteries.

Risk factors for atherosclerosis: non-modifiable (genetics, age, gender) and modifiable (inflammation, hypertension, hyperlipidemia, diabetes, cigarettes, and left ventricular hypertrophy). Hyperlipidemia - elevated levels of lipoproteins (low density lipoprotein (LDL)).

Atherosclerosis developement

1. Chronic inflammatory response of the arterial wall to endothelial injury.
2. Development of an atheroma: tunica intima accumulates oxidized LDLs, cholesterol crystals, monocytes, T cells, and platelets.
3. Intima thickening - smooth muscle cells migrate into tunica intima.
4. Development of a fatty streak - macrophages and smooth muscle cells engulf oxidized LDLs and become foam cells; T cells release inflammatory cytokines.
5. Development of a fibrofatty atheroma (plaque) - smooth muscle proliferation and collagen deposition create a fibrous cap; dead foam cells release lipid debris

Parts of an atheromatous plaque (atheroma): lumen, fibrous cap, and necrotic core.
Atheroma involves many different arteries, bulge into and occlude lumen, rupture, damage and weaken tunica media causing aneurism.

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