



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

New biomarkers in acute coronary synddrome

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A photograph of a stack of colorful books and a silver laptop on a wooden desk. A light blue oval is overlaid on the right side of the image, containing the word "Introduction" in black text. The background is a blurred bookshelf.

Introduction

Acute coronary syndrome (ACS):

Is a name given to three types of [coronary artery disease](#) that are associated with sudden rupture of plaque inside the coronary artery:

- ST segment elevation myocardial infarction or heart attack (STEMI).
- Non-ST segment elevation myocardial infarction or heart attack (NSTEMI)
- Unstable angina



The location of the blockage, the length of time that blood flow is blocked and the amount of damage that occurs determines the type of acute coronary syndrome. These life-threatening conditions require emergency medical care

Acute Coronary Syndrome (ACS)

ACS Symptoms

Pain

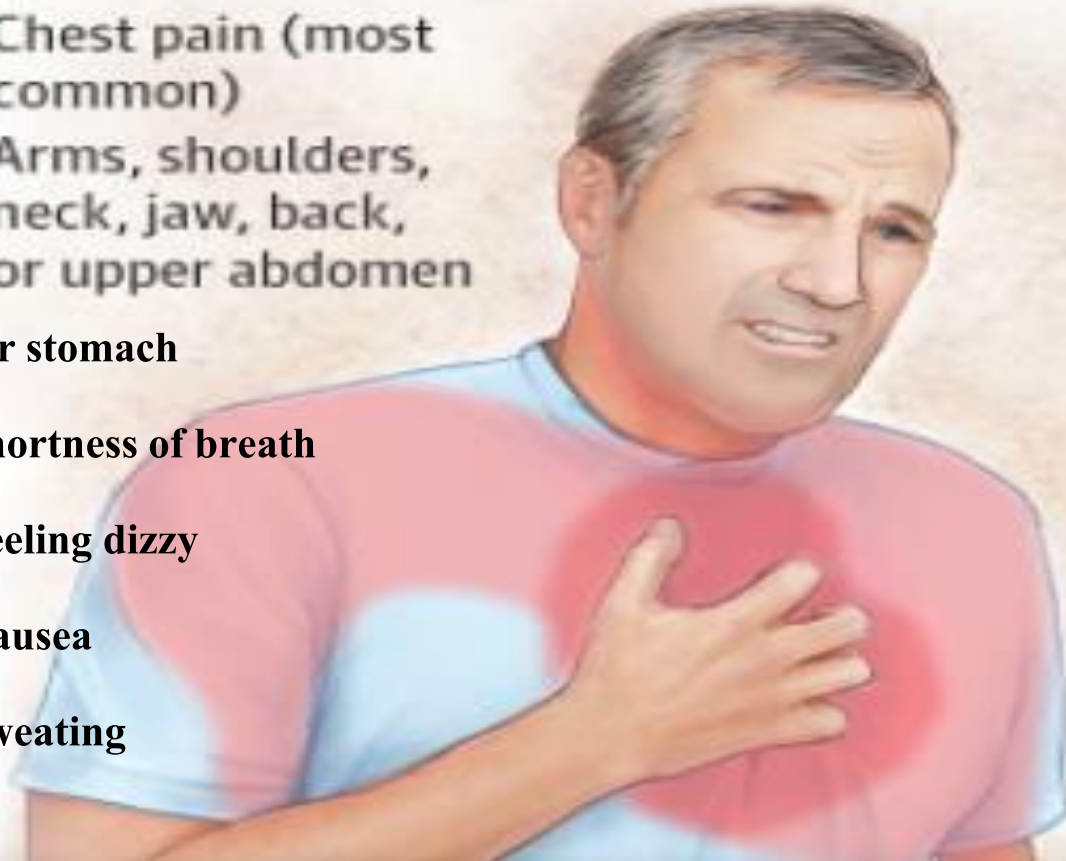
- Chest pain (most common)
- Arms, shoulders, neck, jaw, back, or upper abdomen
or stomach

❖ Shortness of breath

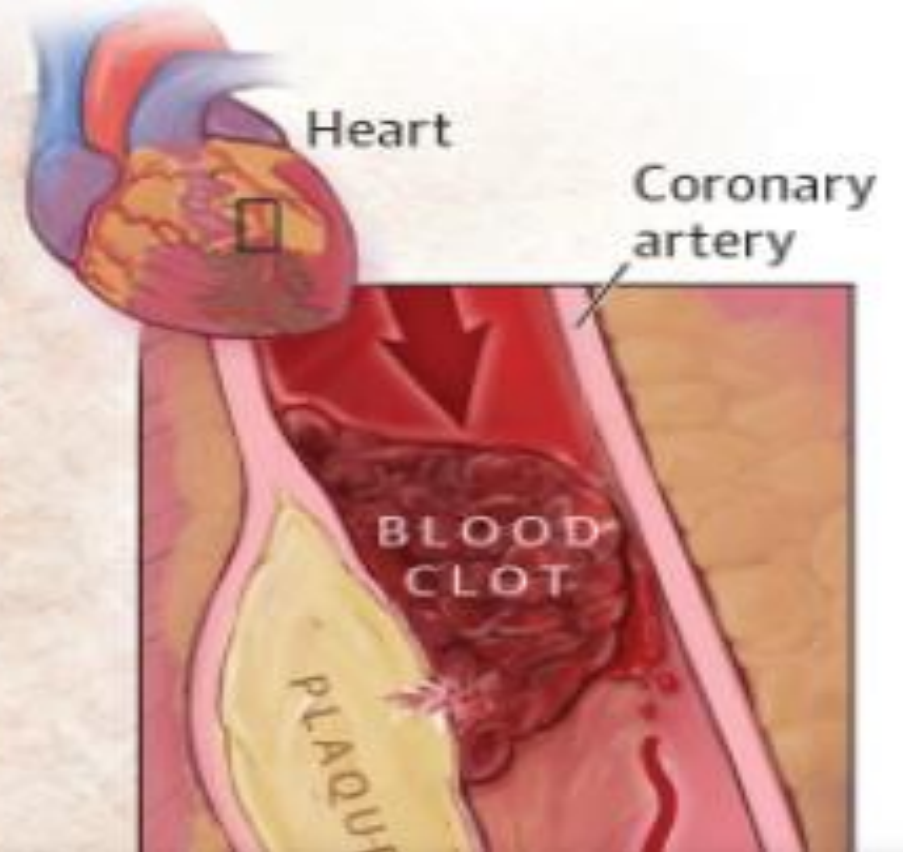
❖ Feeling dizzy

❖ Nausea

❖ Sweating



Blocked blood vessel that supplies the heart muscle



Pathogenesis of ACS:

LDL -C accumulation in coronary artery

LDL-C oxidation to oxLDL

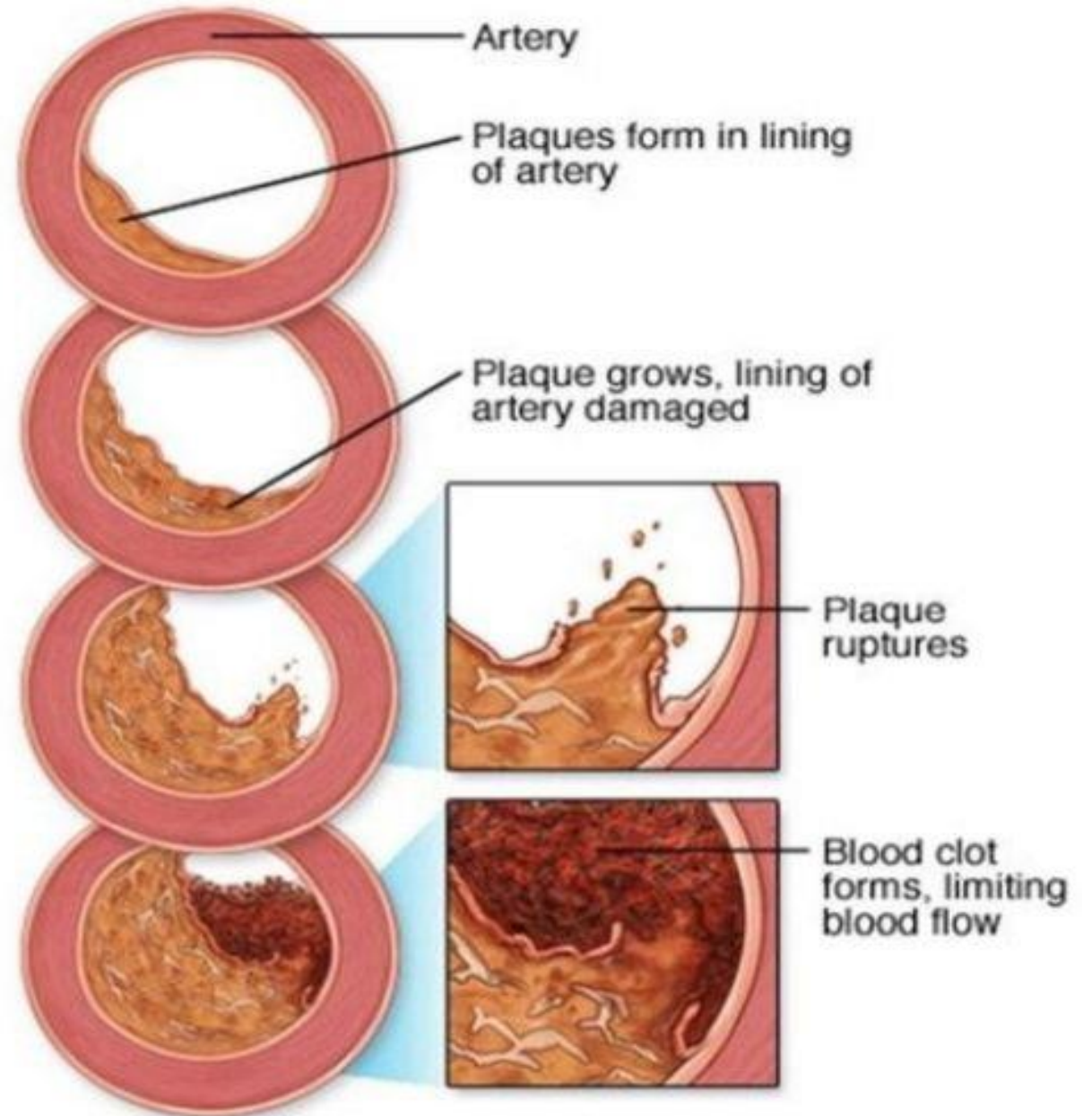
OxLDL lead to stimulate inflammation

Macrophage uptake the oxLDL and formation foam cell

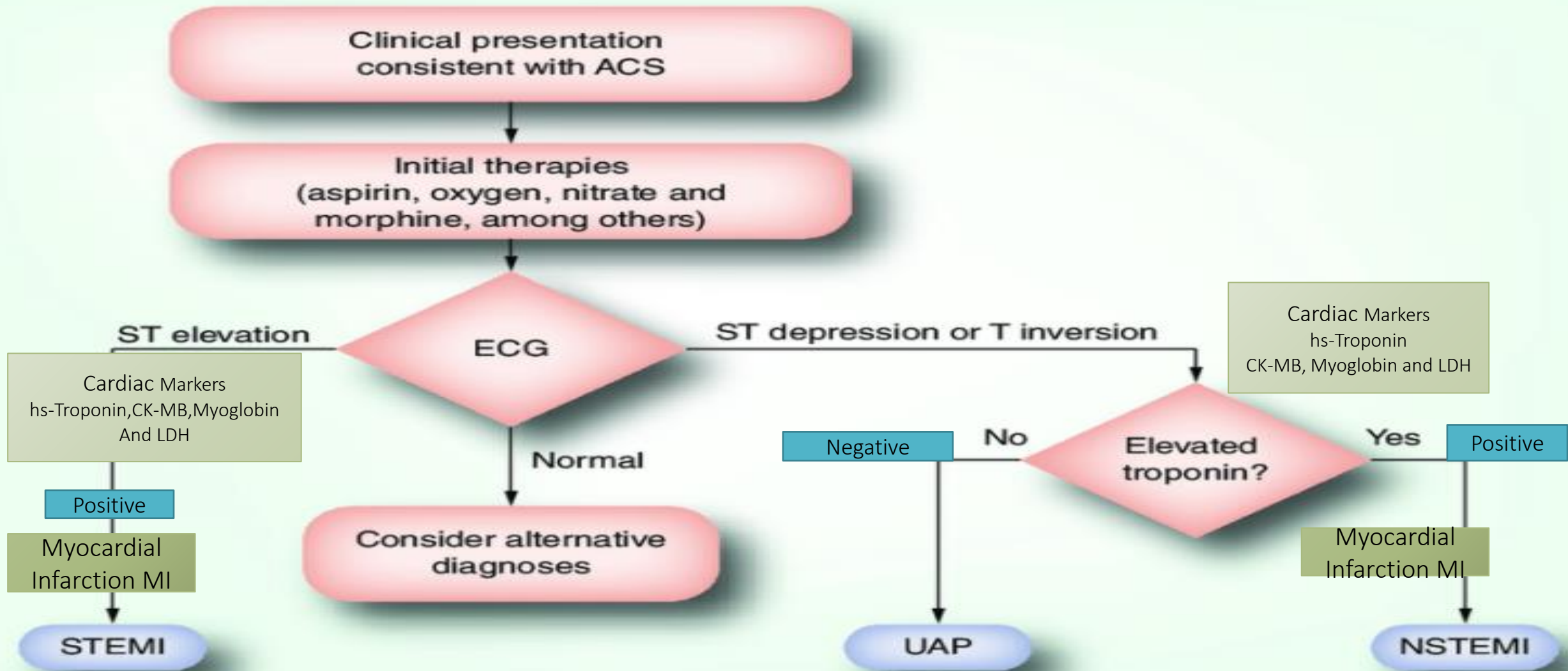
Foam-cells build up lead to plaque

Calcification of plaque

Rupture the plaque



Diagnosis of ACS



Risk Factors of ACS

Hypertension

Smoking

Gender

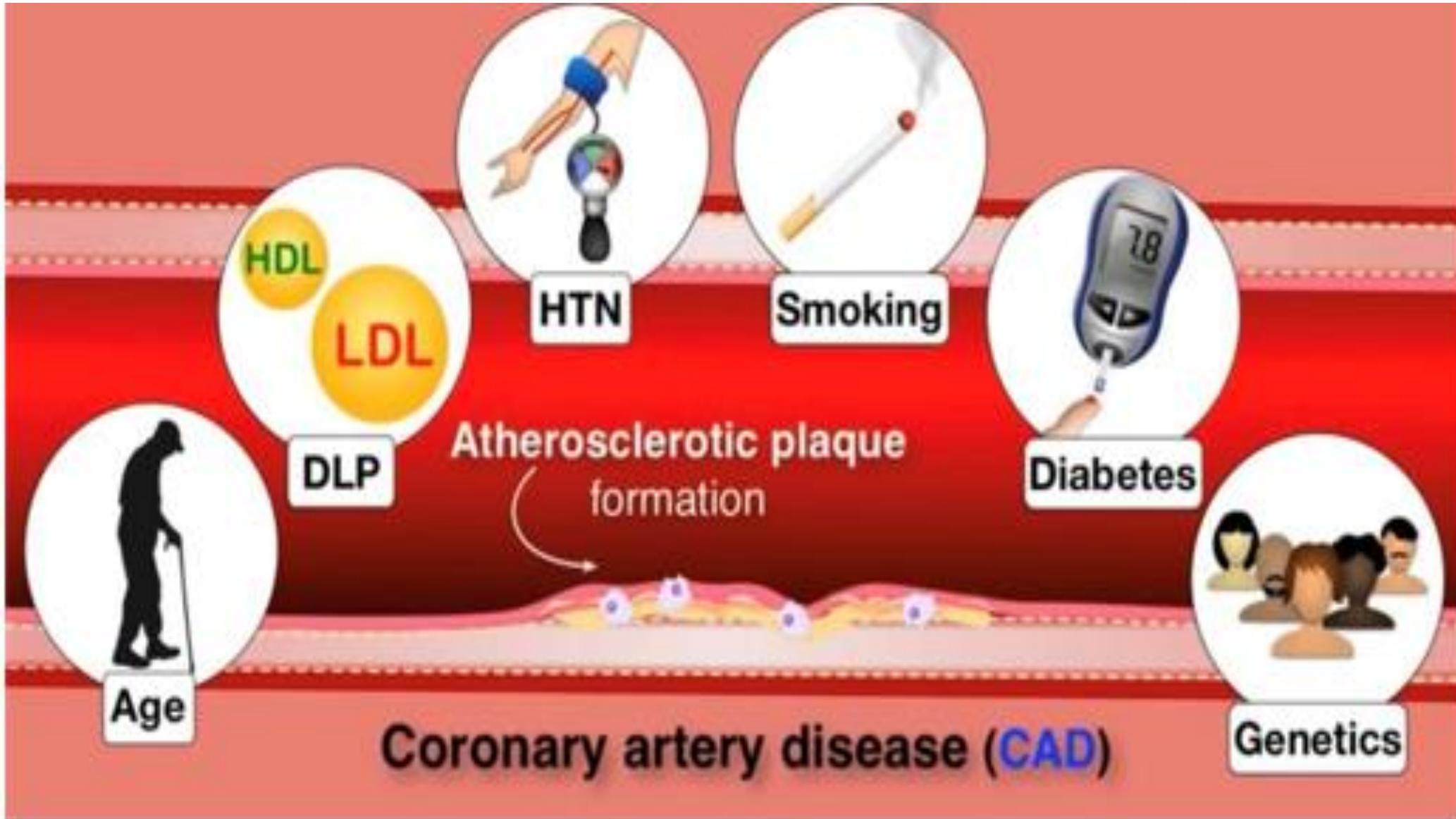
Obesity

Diabetes
Militias (DM)

Stress

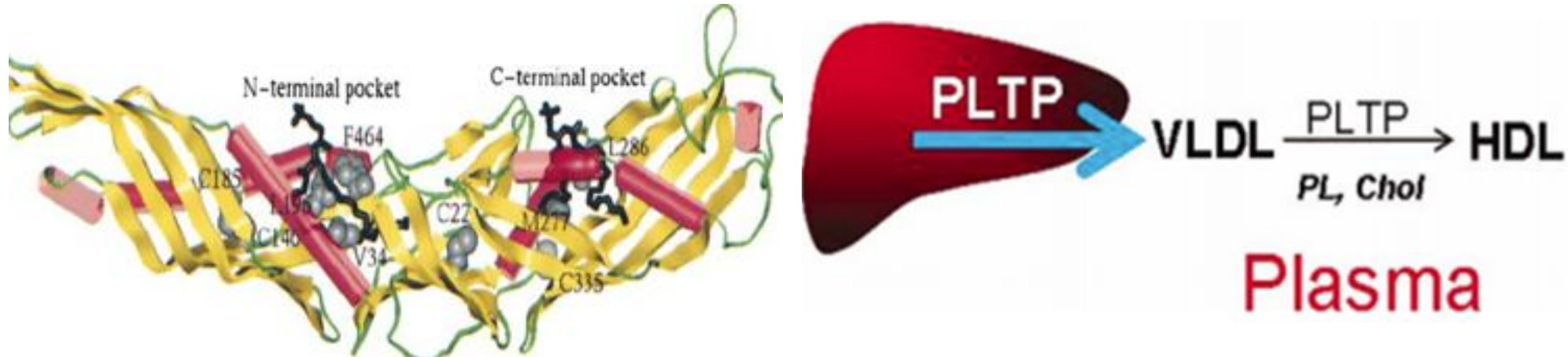
G-Aging

HiperHomocy
stein (Hcy)



Human plasma phospholipid transfer protein

A monomeric hydrophobic protein, comprises 476 amino acids; its expected molecular mass is 81 kDa, mediates the net mass transfer of phospholipid from very low density lipoproteins VLDL or chylomicrons triglyceride rich lipoproteins, VLDL to high-density lipoproteins HDL



It have **anti-atherogenic** actions

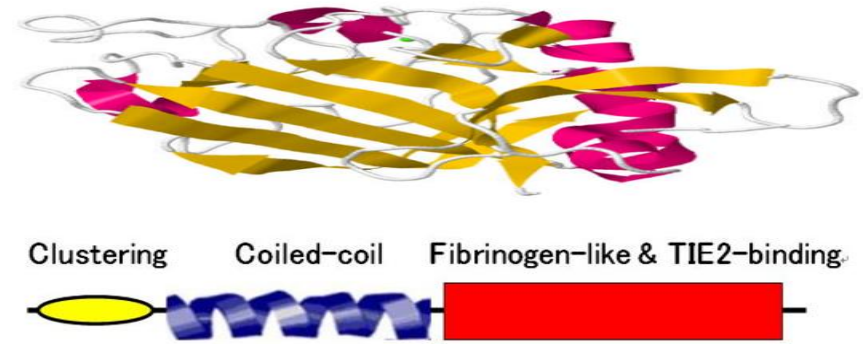
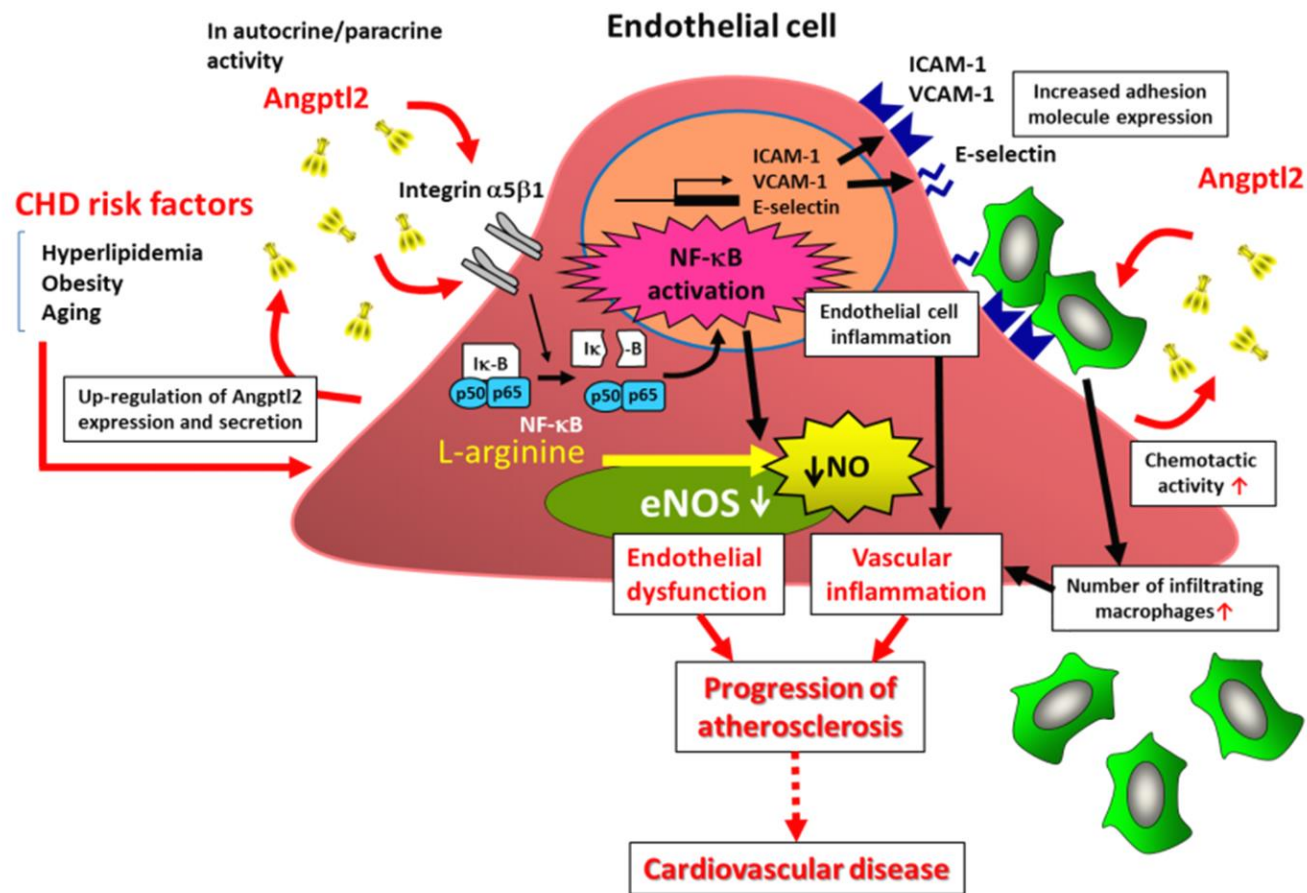
facilitates the efflux of cholesterol from peripheral cells to HDL for reverses cholesterol transfer

It is **anti-inflammatory** effects by inhibiting pro-inflammatory cytokine such as IL-6

Increased anti-inflammatory properties of high-density lipoproteins (HDL), and the reduced ability of low-density lipoproteins (LDL) to induce monocyte chemotactic activity

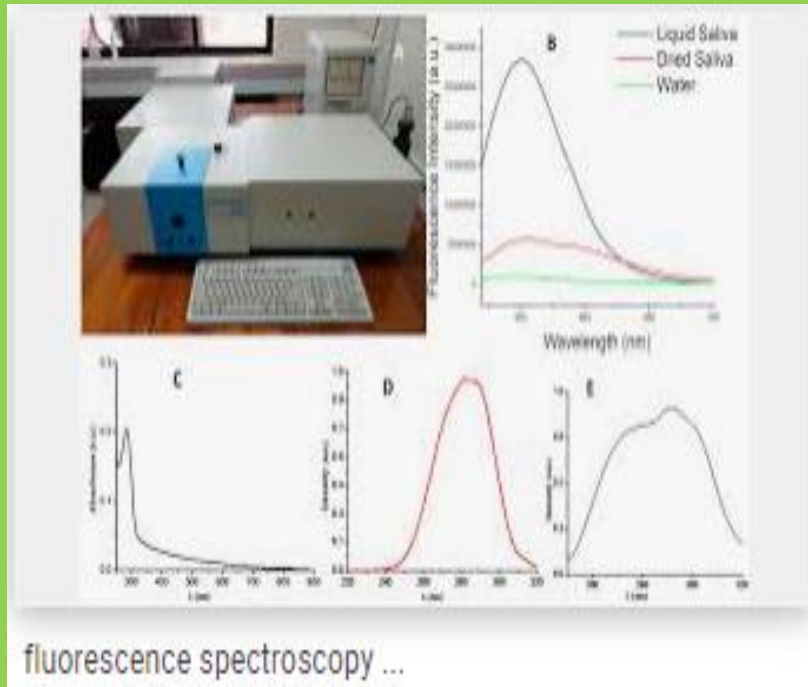
Angiotensin like protein-2(ANGPTL-2)

Recognized a new family of angiogenic glycoproteins ,ANGPTL2 expression is high in cardiac, lung, renal and adipose tissues and in skeletal muscle , it secreted proteins that play important roles in angiogenesis and maintenance of hematopoietic stem cells (HSCs), In humans, ANGPTL2 is also closely related to **adiposity** and **inflammation** associated with **atherosclerosis**.



Demonstrated to have involvement in angiogenesis (neovascular) formation, tissue repair, obesity-associated insulin resistance, rheumatoid arthritis, atherosclerotic pathologies, carcinogenesis and neoplasia related to chemical agents

Methods



ELISA TECHNIQUE for
PLTPa, ANGPTL-2 and
Chemerine
determination



FLUORESCENCE
SPECTROMETRY
For PLTPa
determination

Micro plates for
FLUORESCENCE
ELISA analysis

Statistical analysis:

study design: case control. And use

1

One way analysis of variance (ANOVA)

2

Pearson correlation coefficient

3

Receiver operator curve (ROC)

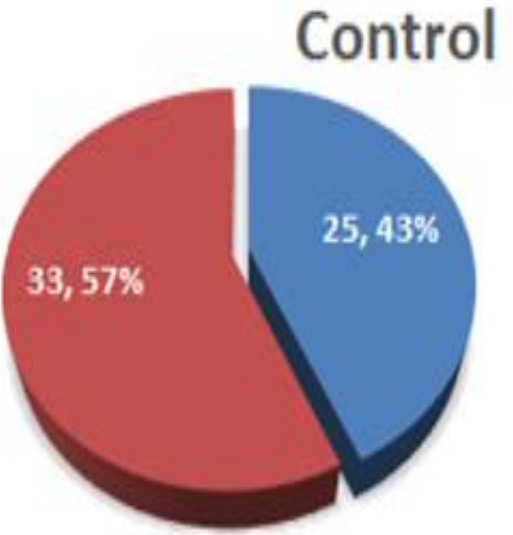
Results & Discussion



Details of groups and characterization of subjects are found in the table

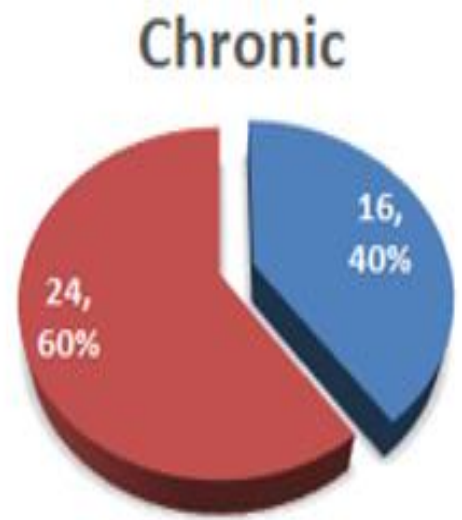
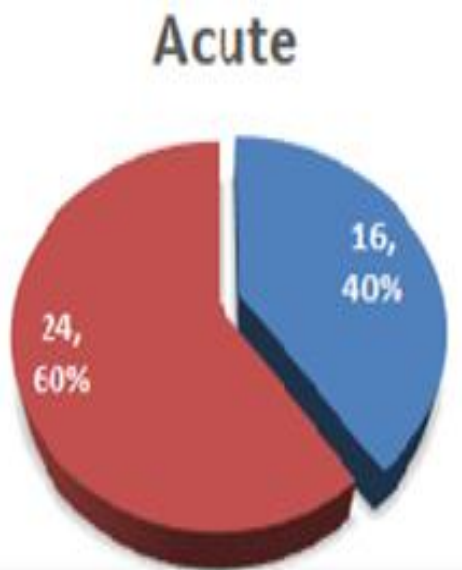
Group	Female No.	Male No.	Total No.	Age/Year Mean	Age range (Years)
Control	25	33	58	59.87	50-80
Chronic	16	24	40	62.65	50-80
Acute	16	24	40	61.25	50-80

Risk factors




■ Female No.
■ Male No.

Vertical (Value) Axis Ma



Gender distribution

The observed frequencies in male group was more than female group and there is statistically no a significant difference between the frequency of the patients in male and female groups compared to control group.

A bouquet of vibrant pink roses is displayed in a clear glass vase. The vase sits on a dark, polished wooden table, which is scattered with a few fallen, yellowish-brown leaves. The lighting is soft, highlighting the delicate petals of the flowers and the texture of the wood. The overall mood is elegant and serene.

**Thank you
for
your attention**