Medix Biochemica

The Role of Lifestyle Factors in Atherosclerosis Prevention & Management



Atherosclerosis

A chronic inflammatory disease where thickening or hardening of the arteries occurs[1,2]

- Caused by a build-up of plaque in the inner lining of an artery[1,2]
- Blood flow & oxygen supply to vital organs are reduced[1]
- A major cause of cardiovascular diseases (specifically ischemic heart disease)[2]
- A cause of ischemic stroke[2]

50%

Atherosclerosis is the underlying cause of approx. **50% of all deaths** in westernized society[2]

1 in 4

In the United States, **610 000 people (1 in 4)** die of heart disease every year[2]

735 000

About **735 000 Americans** have a heart attack every year[2]

75%

75% of acute myocardial infarctions occur from plaque rupture[2]

Risk Factors for Developing Atherosclerosis[2]

Age

Male gender

Family history

Diabetes

Hypertension

Obesity

Smoking

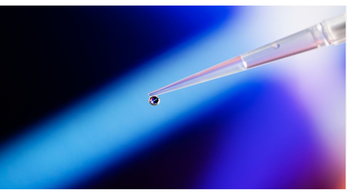
Sedentary lifestyle

Diet high in saturated & trans-fatty acids

Lifestyle Changes for Atherosclerosis Prevention and Management

- Quit smoking[2,3]
- Get regular exercise[2,3]
- Maintain a healthy weight[3]
- Eat a heart-healthy diet[2,3]
- Manage stress[3]

Prevention is Better Than Cure: Benefits of IVD Testing for Atherosclerosis Prevention[4]



Early detection and prevention:

- Reduces the need for more invasive procedures
- Saves on medical expenses
- Has long-term health benefits

The Role of IVD Tests in Atherosclerosis Management[4]

A series of in vitro diagnostic (IVD) tests are used to predict the risk of developing atherosclerosis events

Lipid profile test

- Measures total cholesterol,: LDL-C, HDL-C & triglycerides
- Helps to identify abnormal lipid levels that can indicate increased risk of atherosclerosis

High-sensitivity C-reactive protein (hs-CRP) test

- Inflammation marker
- Higher hs-CRP levels can indicate inflammation associated with atherosclerosis

Interleukin-6 (IL-6) test

- Inflammation marker
- Higher IL-6 levels can indicate inflammation associated with atherosclerosis

Blood glucose & hemoglobin A1c (HbA1c) test

- Measures fasting blood-glucose levels & long-term blood-glucose control
- Helps to assess the risk of diabetes, a significant risk factor for atherosclerosis

Note: Other non-IVD tests that relate to the management of atherosclerosis may include blood pressure, electrocardiogram, carotid ultrasound, coronary calcium scan & and angiography[4]

How IVD Tests Guide Lifestyle Interventions[4]

Monitoring 'before' and 'after' results shows the effectiveness of diet & exercise

The following changes in biomarker levels can indicate lower risk of developing atherosclerosis events

- Increase in: HDL-C
- Decrease in: LDL-C, triglycerides, hs-CRP, IL-6, HbA1c, blood glucose

Medix Biochemica provides the raw materials for IVD cardiovascular tests including lipid profile, hs-CRP, IL-6 & HbA1c assays[4]

References

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3. Arteriosclerosis / atherosclerosis. Diagnosis and treatment. Mayo Clinic. Accessed July 18, 2024. https://www.mayoclinic.org/diseases-conditions/arteriosclerosis-atherosclerosis/diagnosis-treatment/drc-20350575.
4. Expert opinion. Anthony Austin, Global Marketing Manager, Medix Biochemica. July 2024.

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