Glossary – Podcast 1

"A lesson to be learnt about lipids and lipograms."

Atherosclerosis: Atherosclerosis is a disease characterized by the build-up of fatty and fibrous deposits (atheroma plaque) within the arteries of the body. This process of plaque formation/growth leads to narrowing of the blood vessels and reduced blood flow to the brain and heart. Complete obstruction of the vessels leads to myocardial infarction (heart attack) or stroke. Rupturing of plaques can lead to thrombus formation and further vessel obstruction. If the thrombus dislodges from the site of rupture, it forms an embolus which can travel in the blood stream and cause blockages elsewhere. [1]

Atherosclerotic cardiovascular disease (ASCVD): Atherosclerotic cardiovascular disease refers to cardiovascular complications/events (ie. stroke and heart attacks) caused by atherosclerosis and it is the leading cause of death worldwide.[1]

Cholesterol: Cholesterol is a naturally occurring fat-like (waxy) substance produced mainly by the liver. Cholesterol is vital to the structure and function of cells within the body. However, having too much cholesterol, particular of the bad kind may increase the risk of cardiovascular disease. There are two main types of cholesterol: HDL-C (High-density lipoprotein cholesterol, "good cholesterol") and LDL-C (Low-density lipoprotein cholesterol, "bad cholesterol"). Lipoprotein is the name given to cholesterol when combined with the proteins that transport it around the body.[2]

Friedewald Formula: Equation used to calculate LDL-C in a lipoprotein estimation test. Using this method, total cholesterol, triglycerides, and HDL-C are measured using laboratory reagents. Based off these values, LDL-C is then estimated using the below formula: [3]

LDL-C = Total cholesterol – HDL-C – Triglycerides/2.2 (unit: mmol/L)

Lipid profile: Also referred to as a full cholesterol test or lipid panel, is a blood test which measures the amount of cholesterol and triglycerides in the blood. [4]

Lipoprotein a (Lp(a)): Lipoprotein (a) is similar in structure to LDL-C, but with an additional protein component, called apolipoprotein (a). Circulating levels of Lp(a) are genetically determined (inherited). [5,6] Elevated Lp(a) is an independent risk factor for ASCVD and predisposes for aortic stenosis (narrowing of the aortic valve in the heart). [5,7,8] International guidelines recommend considering testing Lp(a) levels at least once during the lifetime of every adult. [8]

Triglycerides: Triglycerides are another type of fat (lipid) within the blood. Triglycerides are stored in fat cells and provide the body with energy. High levels may further increase a person's risk of cardiovascular

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disease and is often associated with obesity and other metabolic diseases. Very high triglyceride levels can lead to pancreatitis (inflammation of the pancreas). [9]

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