

LIPOPROTEIN (a)

INTRODUCTION

Lipoprotein (a) is independently associated with Atherosclerotic Cardiovascular Disease (ASCVD) and is referred to as the most atherogenic lipoprotein. It is synergistic with the effects of low density lipoprotein cholesterol (LDL-C). Unlike other major classes of lipoproteins that have a normal distribution in the population, plasma levels of Lipoprotein (a) / Lp (a) have a skewed distribution towards the lower end with 85% population having concentration <30 mg/dL. It has been suggested that Lp(a) may be prothrombogenic / antithrombotic by competing with plasmin and thereby inhibiting clot dissolution or may lead to accelerated atherogenesis by intimal deposition.

NORMAL RANGE

<30 mg/dL

CLINICAL USE

Candidates for Lp(a) screening are :

- Premature cardiovascular disease – personal or family history
- Familial Hypercholesterolemia
- Recurrent cardiovascular events
- Inadequate LDL-C response to Statin therapy

Lp(a) is largely unaffected by diet & exercise. It does not respond to lipid lowering agents available commercially but can be lowered significantly by the use of Niacin. It may be useful to administer Niacin drug in addition to Statins in a very high risk patient with elevated Lp(a).

INTERPRETATION

Increased Levels

- Genetic
- Familial Hypercholesterolemia
- Acute Phase Reactant
- Chronic Renal Failure
- Nephrotic Syndrome
- Diabetes mellitus
- Cancer
- Menopause
- Hypothyroidism

Decreased Levels

- Liver failure
- Hyperthyroidism
- Drugs like Niacin
- Hormones like Estrogen, Progesterone & Anabolic steroids

HIGH RISK FACTORS

- African & South Asian races – level of Lp(a) is 3 times higher than Caucasians
- Genetic inheritance of certain phenotypes

LABORATORY DIAGNOSIS

Biochemical tests -

- Lp(a)
- Lipid profile
- Lipoprotein electrophoresis

LIMITATIONS