NutriPATH
INTEGRATIVE PATHOLOGY SERVICES

SAMPLE REPORT
09-May-1990 Female

WellLab®

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LAB ID : 3814178
UR NO. :
Collection Date : 09-May-2022
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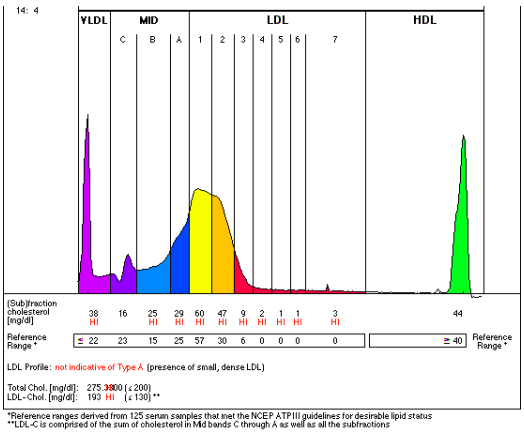
BIOCHEMISTRY

BLOOD - SERUM	Result	Range	Units
LIPIDS			
CHOLESTEROL	*6.7* *H	0.0 - 5.5	mmol/L
TRIGLYCERIDES	0.8	0.2 - 1.5	mmol/L
LIPID STUDIES			
HDL(Protective)	2.0	> 1.2	mmol/L
LDL(Atherogenic)	*4.3* *H	0.5 - 3.5	mmol/L
Cholesterol/HDL Ratio	3.4		
LDL/HDL RATIO (Risk Factor)	2.2	0.0 - 3.2	
Trig/HDL Ratio	*0.4* *L	0.5 - 1.7	RATIO
Lipoprotein (a)	*177* *H	0.0 - 75.0	nmol/L
LIPOSCREEN LDL Subfractions			
Very Low Density Lipoprotein (VLDL)	0.6	0.1 - 0.6	mmol/L
Intermediate Density Lipoprotein (IDL-1)	0.5	0.1 - 0.6	mmol/L
Intermediate Density Lipoprotein (IDL-2)	0.3	0.1 - 0.4	mmol/L
Intermediate Density Lipoprotein (IDL-3)	0.4	0.1 - 0.6	mmol/L
Low Density Lipoprotein (LDL-1)	1.46	0.10 - 1.50	mmol/L
Low Density Lipoprotein (LDL-2)	*1.23* *H	0.10 - 0.80	mmol/L
Low Density Lipoprotein (LDL-3)	*0.38* *H	0.00 - 0.20	mmol/L
Low Density Lipoprotein (LDL-4)	*0.08* *H	0.00 - 0.01	mmol/L
Low Density Lipoprotein (LDL-5)	0.00	0.00 - 0.01	mmol/L
Low Density Lipoprotein (LDL-6)	0.00	0.00 - 0.01	mmol/L
Low Density Lipoprotein (LDL-7)	0.00	0.00 - 0.01	mmol/L
LDL Phenotype Pattern	TYPE B- ABNORMAL		
Mean Particle Size	*266.0* *L	> 268.0	Angstrom
Oxidised LDL	*162.0* *H	< 117.0	IU/L



Note: This graph is a sample only

(*) Result outside normal reference range (H) Result is above upper limit of reference rang (L) Result is below lower limit of reference range

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LIPOSCREEN Comments

RESULT INTERPRETATION
The Liposcreen LDL Subractions test provides a superior indicator for Coronary Artery Disease (CAD) risk than other conventionally available lipid profiles.
Many individuals with normal LDL and HDL cholesterol levels remain at risk from CAD as these conventional tests do not convey the detail of the CAD risk.
Liposcreen additionally quantifies the different subfractions.

Liposcreen clearly identifies a patient's LDL phenotype profile;

This patient has a profile Not indicative of Type A, which is deemed ***ABNORMAL****.*

This is due to the presence of elevated levels of small dense LDLs (LDL3 and LDL4).

Of note is the elevated VLDL band, which when elevated is also deemed highly atherogenic.

Also of note is the low LDL Mean Particle size of 266 Angstrom, which indicates the presence of LDLs of a size capable of penetrating the endothelial lining and causing the development of atheromatous plaques.

Lipoprotein Pattern Characteristics:
(Patient may have some or all of these present)

Type A	Deemed a normal profile. Predominance of large/buoyant (less atherogenic) LDL subclasses (LDL 1 and 2). Mean Particle Size of > 263 Angstrom (A). Elevated Cholesterol, Normal Triglycerides, Elevated Apo B
Type B	Deemed an ABNORMAL profile. Predominance of small/dense (more atherogenic) LDL subclasses (LDL3, 4, 5, 6, 7). Mean Particle Size of < 258 Angstrom (A). Raised Cholesterol, Raised Triglycerides, Raised VLDL, Low HDLC This profile is the designated atherogenic lipoprotein phenotype, consistent with an increased risk of CAD. It is also It is also characteristically prevalent in insulin-resistant states such as Metabolic Syndrome and Type 2 Diabetes mellitus.

Follow up Liposcreen testing, for this patient, is recommended in 3 months.

Oxidised LDL Comment

ELEVATED OXIDISED LDL LEVEL:
Raised Oxidised LDL levels occur from many causes including smoking, poor blood sugar level control, diets high in trans fat and diets poor in antioxidants.
Elevated Oxidised levels are also seen more frequently in diabetic patients than non-diabetics.

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Lipid Profile Comment

CHOLESTEROL COMMENT:
For secondary prevention, total cholesterol Treatment Target is <4.0 mmol/L
Triglycerides Treatment Target <2.0 mmol/L
HDL Treatment Target Value >1.0 mmol/L

LDL-CHOLESTEROL COMMENT:
As there is an elevated LDL level, we suggest a Liposcreen (LDL Subfractions) Test to determine the presence of small, dense (highly atherogenic) LDLs which are a primary cause of Coronary Artery Disease (CAD).
The LDL subtypes are not detectable through conventional Lipid Profiles.

TRIG/HDL RATIO COMMENT:
HDL is closely related to triglycerides. Commonly, patients with elevated triglycerides also have low HDL levels, and also tend to have elevated levels of clotting factors in their blood stream, which is unhealthy in protecting against heart disease.
The triglyceride/HDL ratio is found to be one of the better predictors of heart disease. Research shows that people with an elevated ratio of triglycerides to HDL have 16 times the risk of heart attack as those with the low/normal.

Therefore, in adults, the triglyceride/HDL ratio should ideally be below 2.0 .

TRIG/HDL Reference Range:

< 0.9	Considered ideal	(minimal risk)
> 1.7	High	(moderate risk)
> 2.6	Very High	(high risk)

LIPOPROTEIN(a) ELEVATED:
Consists of an LDL bound to Apolipoprotein component. Causes atherothrombogenesis and strongly associated with peripheral and coronary events.

Consider the following possible causes:
Genetic predisposition, Excessive intake of partially hydrogenated oils/fats, low-fibre, low vegetable-based diet, Hypothyroidism, Post-Menopausal elevation, Diabetes, particularly with central obesity, Chronic renal insufficiency, Simvistatin Therapy, Compounded likelihood of CVD if also high LDL and/or total Cholesterol.

Consider the following actions:
Aerobic Exercise, Dietary modification, 1 g TID Niacin OR inositol hexaniacinate (non-flush if availalable), CoQ10, L-lysine, proline, HRT if indicated, Magnesium, Coronary vasodilator therapy - as elevated Lp(a) may impair normal vasodilation mechanisms.
Vitamin C, L-Lysine and Vitamin E are also beneficial.

Increased HDL levels appear to reduce the threat posed by high levels of Lp(a).

Lp(a) COMMENT:
For Lp(a) levels > 75 nmol/L the relative risk of MI is 1.75 compared to patients with Lp(a) below this level. Lp(a) is an acute phase reactant and the level is elevated in acute illness.

Tests ordered: IMPEI,CFee,LipOx

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