NutriPATH
INTEGRATIVE PATHOLOGY SERVICES
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ALISON WARD
19-Dec-1955 Female

12 SHORTS ROAD
COBURG NORTH VIC 3058

-.AVI CHARLTON
WANTIRNA MALL CLINIC
621 BORONIA RD
WANTIRNA 3152

LAB ID : 4108994
UR NO. :
Collection Date : 03-Jun-2025
Received Date: 06-Jun-2025

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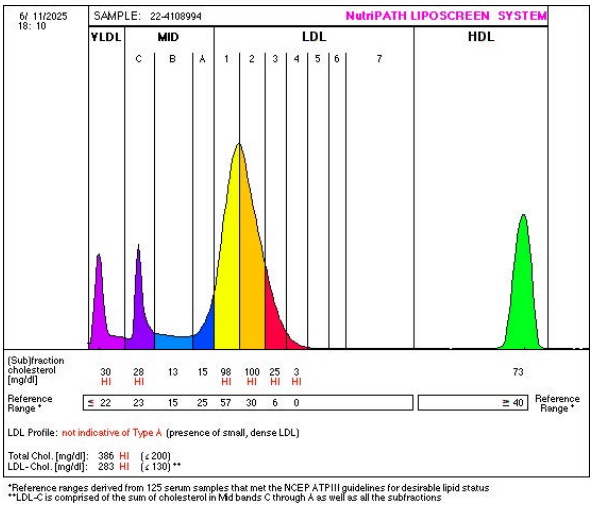
BIOCHEMISTRY

BLOOD - SERUM	Result	Range	Units
LIPIDS			
Cholesterol	*10.0* *H	0.0 - 5.5	mmol/L
Triglycerides	0.9	0.0 - 2.0	mmol/L
LIPID STUDIES			
HDL(Protective)	1.7	1.0 - 2.2	mmol/L
Non-HDL Cholesterol	*8.27* *H	< 4.0	mmol/L
LDL(Atherogenic)	*7.9* *H	0.0 - 3.4	mmol/L
Cholesterol/HDL Ratio	5.8		
LDL/HDL RATIO (Risk Factor)	*4.6* *H	0.0 - 3.2	
Trig/HDL Ratio	0.5	0.5 - 1.7	RATIO
Lipoprotein (a)	*192* *H	0.0 - 75.0	nmol/L
LIPOSCREEN LDL Subfractions			
Very Low Density Lipoprotein (VLDL)	*0.8* *H	0.1 - 0.6	mmol/L
Intermediate Density Lipoprotein (IDL-1)	*0.7* *H	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)	*2.51* *H	0.10 - 1.50	mmol/L
Low Density Lipoprotein (LDL-2)	*2.56* *H	0.10 - 0.80	mmol/L
Low Density Lipoprotein (LDL-3)	*0.64* *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
Mean Particle Size	*266.0* *L	> 268.0	Angstrom
LDL Phenotype Pattern	TYPE B- ABNORMAL		



(*) Result outside normal reference range (H) Result is above upper limit of reference range (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 and IDL C bands, which when elevated are also deemed highly atherogenic.

Please note the raised Lipoprotein (a) levels.

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.

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Lipid Profile Comment

Target Levels for the general population and the National Vascular Disease Prevention Alliance (NVDPA) treatment target levels for high-risk people (known coronary heart and other arterial diseases, diabetes, chronic renal failure, Aboriginal and Torres Strait Islander peoples and familial hyperlipidaemic conditions) are:

	Tot. Cholesterol	LDL-Cholesterol	HDL-Cholesterol
General population:	<5.5 mmol/L	<3.0 mmol/L	M: >=1.0, F: >=1.0 mmol/L
At risk individuals:	<4.0 mmol/L	<2.5 mmol/L	

At risk:
Fasting Triglycerides: <2.0 mmol/L
Non-HDL Cholesterol: <3.3 mmol/L

National guidelines generally specify specific targets, refer to www.cvdcheck.org.au

CHOLESTEROL ELEVATED:
Elevated levels are associated with an increased risk of coronary artery disease in all age groups. The cause may be primary (familial hypercholesterolaemia and other genetic disorders) or secondary (associated with e.g., biliary obstruction, hypothyroidism, nephrotic syndrome).

ELEVATED LDL-CHOLESTEROL:
LDL Cholesterol >6.5 mmol/L indicates an Increased risk of Familial Hypercholesterolaemia.
A LDL Subfractions test may be considered in patients with intermediate risk and/or when there appears to be discordance between clinical presentation and lipid measurements.

ELEVATED NON-HDL CHOLESTEROL LEVEL:
Non-HDL cholesterol surpasses LDL cholesterol as a risk factor for CVD. Increased non-HDL Cholesterol is a significant marker for subclinical atherosclerosis.
Non-HDL Cholesterol >7.5mmol/L indicates an Increased risk of Familial Hypercholesterolaemia.

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,

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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.

SPECIMEN RECEPTION

BLOOD - SERUM	Result	Range	Units
Test Verification	PLEASE NOTE: The results for this episode that are out of range have been verified through repeat testing of the specimen.		

Tests ordered: BioPEI,CFee,FATS,GOG135,LIP,LIPOSCRN,VERIF

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