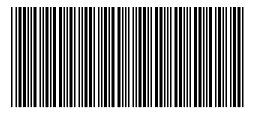


RECEIVED
26-Apr-26

Specimen type - Blood-Serum	15-Apr-26
Specimen type - Blood-K2EDTA	15-Apr-26
Specimen type - Blood-Trace Metal	15-Apr-26
Specimen type - Blood-Whole	15-Apr-26

COPPER/ZINC BALANCE						
TEST	RESULT	H/L		REFERENCE	UNITS	
Copper	20.8			(13.0-22.0)	umol/L	
Zinc	10.1			(9.0-19.0)	umol/L	
Copper/Zinc Ratio	2.06	H		(0.54-1.68)	ratio	
Caeruloplasmin	0.24			(0.20-0.60)	g/L	
% Free Copper	45	H		(5-25)	%	
BIOCHEMISTRY						
TEST	RESULT	H/L		REFERENCE	UNITS	
Histamine	1.0	L		(5.0-60.0)	ng/mL	
Vitamin D	45	L		(50-200)	nmol/L	
Homocysteine	17.0	H		(5.0-15.0)	umol/L	



26116-0009

Lab ID
Patient ID P000060
Ext ID 26116-0009

Sex: Female • 56yrs • 01-Jan-70
123 Home Street, Test Suburb VIC 3125

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26-Apr-26

ELEVATED FREE COPPER:

ELEVATED Cu/Zn RATIO:

LOW WB HISTAMINE LEVELS:

Low Whole Blood Histamine is otherwise known as Histapenia. In assessing Histamine levels, Diamine Oxidase (DAO) should also be tested concurrently. Serum/plasma copper levels in histapenic patients are often abnormally high. As copper is a brain stimulant (and also destroys histamine), the elevated serum/plasma (and presumably brain) copper level probably accounts for many visible symptoms, including the low blood histamine level. Behavioral symptoms in high-copper histapenia include paranoia and hallucinations in younger patients. In older patients, depression may predominate. Some studies of schizophrenics have revealed high blood copper, as seen in histadelia, with low urinary copper (showing that copper is being retained) as well as low blood zinc.

VITAMIN D COMMENT:

Mild vitamin D deficiency: 30–49 nmol/L

Moderate vitamin deficiency: 12.5–29 nmol/L

Severe vitamin D deficiency: <12.5 nmol/L

Consider measuring vitamin D by LCMS if the result does not correlate clinically or does not change with vitamin D supplementation.

Elevated homocysteine levels may result from low levels of folic acid, vitamin B6, or vitamin B12, some drugs and renal impairment, as well as several inherited defects. However, an elevated plasma homocysteine may also be due to high protein/Paleo diet.

The following genetic SNPs in CBS, MTHFR, MTR, MTRR may also impact levels of plasma homocysteine.

NOTE: Fasting overnight is required for this test. A falsely elevated result can occur if the blood has not been preserved appropriately and there is a delay in separation of the plasma from cells.

Automated Chemistry/Immunochemistry, Inductively Coupled Plasma Mass Spectrometry (ICP-MS), Enzyme-Linked Immunosorbent Assay (ELISA)