

Referrer **Dr Maureen Harrington**
Address LEVEL 8 309 PITT STREET
SYDNEY NSW 2000
Phone 0292678793

Your ref.
Address 16 KENDALL ST
WOOLLAHRA NSW 2025
Phone 0404362334

Copy to Ms Alexandra Middleton (0410503376)

Requested 07/02/2019
Collected 11/02/2019 07:42 AEDT
Received 11/02/2019 07:44 AEDT

Biochemistry

Test Name	Result	Units	Reference Interval
Status	Fasting		
Sodium	139	mmol/L	135 - 145
Potassium	4.2	mmol/L	3.5 - 5.5
Chloride	105	mmol/L	95 - 110
Bicarbonate	25	mmol/L	20 - 32
Urea	5.3	mmol/L	3.0 - 8.0
Creatinine	60	umol/L	45 - 85
eGFR	>90	mL/min/1.73m2	>59
Urate	0.20	mmol/L	0.15 - 0.40
Calcium	2.45	mmol/L	2.15 - 2.55
Corrected Calcium	2.41	mmol/L	2.15 - 2.55
Phosphate	1.22	mmol/L	0.8 - 1.5
● Total Bilirubin	37 H	umol/L	3 - 15
Alk Phos	58	U/L	30 - 115
Gamma GT	15	U/L	5 - 35
LDH	170	U/L	120 - 250
AST	22	U/L	10 - 35
ALT	27	U/L	5 - 30
Total Protein	68	g/L	64 - 83
Albumin	45	g/L	36 - 47
Globulin	23	g/L	23 - 39
● Cholesterol	5.9 H	mmol/L	3.9 - 5.5
Triglycerides	0.6	mmol/L	0.5 - 1.7

Comments

Increased total bilirubin. In the absence of haemolysis, a mildly elevated indirect bilirubin may be due to Gilbert's syndrome.

eGFR (mL/min/1.73m2) calculated by CKD-EPI formula - see www.kidney.org.au

Supervising Pathologist: GC, NT

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Iron Studies

Test Name	Result	Units	Reference Interval
Iron	11.2	umol/L	5.0 - 30.0
Transferrin	2.8	g/L	2.0 - 3.2
TIBC (Calculated)	62	umol/L	46 - 70
Saturation	18	%	10 - 45
Ferritin	77	ug/L	30 - 300

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Microalbumin, Random Urine

Test Name	Result	Units	Reference Interval
U-Creatinine	6.6	mmol/L	
R U-Albumin	<3.0	mg/L	
R U-Albumin/Creat	<0.5	mg/mmol	<3.5

Comments

The urine microalbumin concentration is below the test's lower limit of detection (<3.0 mg/L). The above calculated microalbumin:creatinine ratio is expressed as maximum possible value.

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25-OH Vitamin D

Test Name	Result	Units	Reference Interval
Vitamin D	84	nmol/L	50 - 140

Comments

According to the Position Statement 'Vitamin D and health in adults in Australia and New Zealand' MJA, 196(11):686-687, 2012, Vitamin D status is defined as:

Mild Deficiency	30	-	49 nmol/L
Moderate Deficiency	12.5	-	29 nmol/L
Severe Deficiency	<12.5		nmol/L

Vitamin D adequacy can be defined as a level >49 nmol/L at the end of winter - the level may need to be 10 - 20 nmol/L higher at the end of summer, to allow for seasonal decrease.

From 1st November 2014, Medicare rebates for vitamin D testing will apply to patients at risk of Vitamin D deficiency such as chronic lack of sun exposure.

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Lipids and HDL

Test Name	Result	Units	Reference Interval
Status	Fasting		
● Cholesterol	5.9 H	mmol/L	3.9 - 5.5
Triglycerides	0.6	mmol/L	0.5 - 1.7
● HDL Cholesterol	2.3 H	mmol/L	0.9 - 2.1
LDL Cholesterol	3.3	mmol/L	1.7 - 3.5

Comments

According to current guidelines (Position Statement 2005), suggested targets are:

HDL Cholesterol	>1.0 mmol/L
LDL Cholesterol	<2.0 mmol/L (for patients at high risk)
	<2.5 mmol/L (for patients at lower risk)
Triglycerides	<1.5 mmol/L

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Glucose

Test Name	Result	Units	Reference Interval
Glucose Fasting	4.7	mmol/L	3.6 - 6.0

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Thyroid Function

Test Name	Result	Units	Reference Interval
TSH	2.30	mIU/L	0.40 - 4.00

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Haemoglobin A1c

Test Name	Result	Units	Reference Interval
HbA1c (IFCC)	32	mmol/mol	20 - 38
HbA1c	5.1	%	4.0 - 5.6

Comments

HbA1c less than 48 mmol/mol (6.5%) does not exclude a diagnosis of diabetes mellitus based upon elevated glucose results. The existing diagnostic criteria for fasting and random glucose levels and for oral glucose tolerance testing remain valid, and are the diagnostic tests of choice in the presence of conditions that interfere with HbA1c measurement. Conditions which may affect the measured HbA1c value include any of the haemolytic anaemias, anaemia of chronic disease, severe liver disease, vitamin B12 and/or folate deficiency, the haemoglobinopathies and regular phlebotomy performed for medical indications or for blood donation. It also should be noted that further investigation is required for any inexplicably low HbA1c level or significant discrepancy between HbA1c and glucose results.

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Vitamin B12 and Folate

Test Name	Result	Units	Reference Interval
● Vitamin B12	651 H	pmol/L	135 - 650
Serum Folate	35.7	nmol/L	> 7.0

Comments

From 8 March 2014, active B12 (holotranscobalamin) testing will be performed on all patients with low or equivocal (at or below 340 pmol/L) total B12 results. Both tests are eligible for a Medicare rebate under these circumstances.

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Haematology

Test Name	Result	Units	Reference Interval
Haemoglobin	135	g/L	119 - 160
Red cell count	4.4	$\times 10^{12}/L$	3.8 - 5.8
Haematocrit	0.41		0.35 - 0.48
MCV	94	fL	80 - 100
MCH	31.0	pg	27.0 - 32.0
MCHC	330	g/L	310 - 360
RDW	13.7		10.0 - 15.0
• White cell count	23.0 H	$\times 10^9/L$	4.0 - 11.0
• Neutrophils	1.45 L	$\times 10^9/L$	2.0 - 7.5
• Lymphocytes	20.42 H	$\times 10^9/L$	1.0 - 4.0
Monocytes	0.87	$\times 10^9/L$	0.0 - 1.0
Eosinophils	0.17	$\times 10^9/L$	0.0 - 0.5
Basophils	0.06	$\times 10^9/L$	0.0 - 0.3
NRBC	<1.0	/100 WBC	<1
Platelets	150	$\times 10^9/L$	150 - 450

Comments

Red Cell Morphology: Anisocytosis +, Poikilocytosis +.

Mild neutropenia
Moderate lymphocytosis with smudge cells
Consistent with known chronic lymphocytic leukaemia

Supervising Pathologist: FH

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Coeliac Serology

Deamidated Gliadin IgA	<1	U/mL	<15
Deamidated Gliadin IgG	<1	U/mL	<15
Tissue Transglutaminase IgA	<1	U/mL	<15
Tissue Transglutaminase IgG	<1	U/mL	<15

Comments

From 03/06/2013, all requests for coeliac serology will be analysed by a multiplex assay which simultaneously detects deamidated gliadin IgA and IgG as well as tissue transglutaminase IgA and IgG antibodies. All four results are reported regardless of request and if selective IgA deficiency is detected (<0.07 g/L) which would render IgA-based serology non-informative this is also reported.

In a person eating wheat, the presence of one positive antibody may occur without coeliac disease while multiple positive antibodies strongly predict coeliac disease which should be confirmed by biopsy. For monitoring coeliac disease, IgA antibodies may become negative after 6-9 months of gluten restriction while IgG antibodies may take 9-12 months; persistent positive serology suggests non-compliance. Risk of coeliac disease may be effectively excluded if HLA-DQ2 or HLA-DQ8 are not detected in persons with discordant serology or positive family history. Endomysial IgA antibodies can be performed on request but we believe they have limited clinical utility with our new deamidated gliadin and TTG assays.

Supervising Pathologist: KB

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