DOUGLASS HANLY MOIR PATHOLOGY
Quality is in our DNA

KATHARINA JACOB

Lab ID **861566603** DOB **06/07/1985 (35 Yrs FEMALE)**

Referrer	**Dr Emma Scott**	Your ref.	**206373**
Address	GENERAL PRACTICE CREMORNE 414 MILITARY ROAD MOSMAN NSW 2088	Address	6/65 PACIFIC PDE DEE WHY NSW 2099
Phone	0289695000	Phone	0406125902

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Reproductive Hormones
(Abbott Method)

Test Name	Result	Units	Reference Interval
FSH	6.0	IU/L	
LH	2.9	IU/L	
Oestradiol	145	pmol/L	
DHEAS	2.7	umol/L	2.4 - 13

Comments

FSH	Basal	1.5 - 10
	Mid cycle peak	7.0 - 22
	Post-menopausal	25 - 130
LH	Basal	2.0 - 12
	Mid cycle peak	8.0 - 90
	Post-menopausal	5.0 - 62
Oestradiol	Follicular phase	<320
	Preovulatory phase	450 - 2000
	Luteal phase	125 - 1300
	Post-menopausal	<170

Supervising Pathologist: GC, NT

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Biochemistry

Test Name	Result	Units	Reference Interval
Status	Fasting		
Sodium	139	mmol/L	135 - 145
Potassium	4.8	mmol/L	3.5 - 5.5
Chloride	106	mmol/L	95 - 110
Bicarbonate	24	mmol/L	20 - 32
Urea	4.4	mmol/L	2.5 - 7.0
Creatinine	65	umol/L	45 - 85
eGFR	>90	mL/min/1.73m2	>59
Total Bilirubin	14	umol/L	3 - 15
Alk Phos	46	U/L	20 - 105
Gamma GT	11	U/L	5 - 35
LDH	163	U/L	120 - 250
AST	25	U/L	10 - 35
ALT	15	U/L	5 - 30
● Total Protein	65 L	g/L	68 - 85
Albumin	41	g/L	37 - 48
Globulin	24	g/L	23 - 39
Cholesterol	4.6	mmol/L	3.9 - 5.5
Triglycerides	0.7	mmol/L	0.5 - 1.7

Comments

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

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Iron Studies

Test Name	Result	Units	Reference Interval
Iron	23.7	umol/L	5.0 - 30.0
Transferrin	2.1	g/L	2.0 - 3.6
TIBC (Calculated)	48	umol/L	46 - 77
● Saturation	49 H	%	10 - 45
Ferritin	39	ug/L	15 - 200

Comments

? History of iron therapy. Recommend follow up iron studies.
Persistent elevation of transferrin saturation and/or ferritin may be associated with haemochromatosis. If indicated, suggest genetic testing for haemochromatosis (5 mL EDTA specimen).

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FINAL REPORT

C Reactive Protein (High Sens)

Test Name	Result	Units	Reference Interval
CRP	<0.4	mg/L	0.0 - 5.0

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25-OH Vitamin D

Test Name	Result	Units	Reference Interval
Vitamin D	79	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	4.6	mmol/L	3.9 - 5.5
Triglycerides	0.7	mmol/L	0.5 - 1.7
HDL Cholesterol	1.8	mmol/L	0.9 - 2.1
LDL Cholesterol	2.5	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	5.2	mmol/L	3.6 - 6.0

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Thyroid Function

Test Name	Result	Units	Reference Interval
TSH	1.92	mIU/L	0.40 - 3.50

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Prolactin (Roche Method)

Prolactin (Total)	259	mIU/L	85 - 500

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Insulin
(Abbott Architect Method)

Insulin, Fasting	4	mU/L	0 - 20

Comments

In a non-pregnant patient, serum insulin(s) >80 mU/L following a 75g oral glucose load and/or fasting insulin(s) >14 mU/L (in the absence of insulinoma) are consistent with insulin resistance. Post-load insulin(s) of 60 - 80 mU/L and/or fasting insulin(s) of 10 - 14 mU/L are suggestive of insulin resistance and follow-up may be indicated in the presence of risk factors such as obesity or a positive family history.

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Biomarkers

Cancer Antigen 125	7	U/mL	<36

Comments

CA 125 is within reference limits. A normal result does not exclude neoplasia.

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IGF-1 (Liaison)	26	nmol/L	11 - 38

Comments

IGF-1 testing performed on Diasorin Liaison XL.

Reported by Sullivan and Nicolaides Pathology, a member of the Sonic Healthcare Group.

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Thyroid Autoantibodies

Thyroglobulin Ab	**71.0 H**	IU/mL	<4.1
Thyroid Peroxidase Ab	**74.9 H**	IU/mL	<5.6

Comments

High levels of thyroglobulin and thyroid peroxidase antibodies occur in Hashimoto's disease. Lower levels can occur in clinically normal persons and with other thyroid disorders.

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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 for gestational diabetes, type 1 diabetes and 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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Genotyping for Coeliac Disease

Specimen type	EDTA blood
Method	Real-time PCR
Result:	Coeliac susceptibility genotype DETECTED (DQA1*05+, DQA1*02-, DQB1*02+, DQB1*03:02/05-)
Interpretation:	Genotype consistent with the presence of HLA-DQ2.5 antigen. This result is associated with increased risk of coeliac disease. However, >50% of the general population has an at-risk genotype, and <1% of these individuals will develop biopsy-confirmed coeliac disease. Supportive evidence from coeliac serology and smallintestinal biopsy is therefore necessary to make a diagnosis of coeliac disease.

Comments

Test Information:

Qualitative detection of HLA-DQA1*02:01, HLA-DQA1*05:XX, HLA-DQB1*02:XX, HLA-DQB1*03:02/03:05 and HLA-DRB1*04:XX alleles is performed using the GeneFinder HLA-DQ2/DQ8 RealAmp kit (Osang Healthcare). This assay is designed to identify DQ2 (2.2 and 2.5) and DQ8 antigens that are present in more than 95% of individuals with coeliac disease. Some additional rare genotypes consistent with HLA-DQ8 antigen may be detectable by this assay though indistinguishable from HLA-DQB1*03:02/05. False positive results due to cross-reactivity with rare subtypes are possible. Rare subtypes, the presence of additional heterodimers, and zygosity of detected alleles cannot be determined by this assay. A full list of alleles to 4-digit HLA nomenclature detectable by this assay is available on request. References: PMID 25827511; 23981538.

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Haematology

Test Name	Result	Units	Reference Interval
Haemoglobin	131	g/L	119 - 160
Red cell count	4.2	x10^12/L	3.8 - 5.8
Haematocrit	0.38		0.35 - 0.48
MCV	92	fL	80 - 100
MCH	31.6	pg	27.0 - 32.0
MCHC	342	g/L	310 - 360
RDW	11.7		10.0 - 15.0
White cell count	4.5	x10^9/L	4.0 - 11.0
● Neutrophils	**1.95 L**	x10^9/L	2.0 - 7.5
Lymphocytes	1.97	x10^9/L	1.0 - 4.0
Monocytes	0.45	x10^9/L	0.0 - 1.0
Eosinophils	0.06	x10^9/L	0.0 - 0.5
Basophils	0.04	x10^9/L	0.0 - 0.3
NRBC	<1.0	/100 WBC	<1
Platelets	240	x10^9/L	150 - 450
ESR	3	mm/h	1 - 23

Comments

Full blood count is essentially normal

Supervising Pathologist: FH

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Antinuclear Antibodies

ANA	Not Detected

Comments

(Screened at a titre of 80)

Supervising Pathologist: KB

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Antibodies to Extractable Nuclear Antigen (ENA)

SS-A 60	Not detected
SS-B	Not detected
Ro-52	Not detected
Scl-70	Not detected
Jo-1	Not detected
Cenp-B	Not detected
Sm	Not detected
RNP	Not detected
Ribo-P	Not detected

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Coeliac Serology

Deamidated Gliadin IgA	3	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

Performed on Bioplex 2200. This detects selective IgA deficiency (<0.07 g/L), an additional comment will be attached if detected.

In persons eating wheat (most days, last six weeks), negative serology effectively excludes coeliac disease/dermatitis herpetiformis. One elevated marker may occur without disease whereas two or more elevated (at four times the cutoff level) markers strongly predict coeliac disease which can be confirmed by biopsy.

Serology becomes negative on gluten free diet (6-9 months for IgA-deam gliadin and IgA-tTG, 9-15 months for IgG-deam gliadin and IgG-tTG). Without compliance, coeliac markers rise. Coeliac tissue-typing excludes coeliac disease risk by excluding HLA-DQ2 or DQ8 in persons with discordant serology or discordant serology-biopsy findings.

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