CHERIE COWIN **Dr DENIS REBIC**

NutriPATH
Integrative Pathology Services
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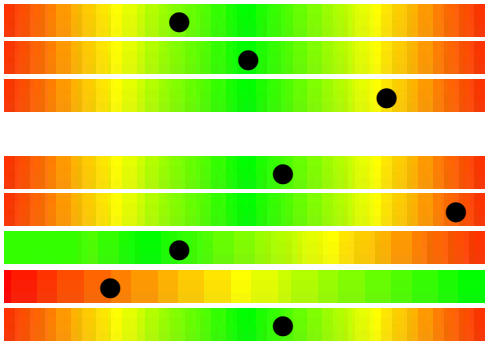
Date of Birth : 27-Oct-1969
Sex : F
Collected : 13-Oct-2016
24/25A MARKS STREET
NAREMBURN NSW 2065
Lab id: **3450314** UR#:

SUITE 2, 23-27 WELLINGTON STREET
ST KILDA VIC 3182

ENDOCRINOLOGY SALIVA

SALIVA	Result	Range	Units
Cortisol Morning	**16.60**	6.00 - 42.00	nmol/L
Progesterone (P4)	**881.0**	318.0 - 1590.0	pmol/L
Testosterone.	***199.0*** ***H**	25.0 - 190.0	pmol/L
Salivary Estrogens			
Estradiol (E2)	**12.0**	2.0 - 18.0	pmol/L
Estrone (E1)	***22.0*** ***H**	9.6 - 20.0	pg/mL
Estriol (E3)	**8.0**	0.0 - 29.0	pg/mL
E3/[E2+E1]	***0.24*** ***L**	> 1.00	RATIO
P4/E2 Ratio (Saliva)	**73.4**	4.0 - 108.0	RATIO



(*) 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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Saliva Hormone Comments

SALIVARY HORMONE REFERENCE RANGES: (NOT ON HRT - BASELINE)

	E2	E1	E3	Progesterone	DHEAS
FEMALE					
Follicular	<18	9.6-20	15-29	<318	
Mid-Cycle	11-29	9.6-20	15-29	-	
Luteal	<18	9.6-20	15-29	318-1590	
Post Men.	<6	9.6-20	1-41	<159	<6.5
Premenopausal, no oral contraceptives					2.5-25.0
Premenopausal, with oral contraceptives					2.0-8.0
MALE	<6	9.6-20	16-25	<159	5.0-30.0

TARGET REFERENCE RANGES: (ON HRT - 24hr post last dose)

	E2	E1	E3	Progesterone	Testosterone Age Dpndt
Oral	7-73	-	69-139	318-1590	
Patch	4-18	-	-	-	
Cream/Gel	37-184	-	1040-1734	3180-31797	F: 277-867
					M: 347-1734

SALIVA ESTRONE (E1) is produced primarily from androstenedione originating from the gonads or the adrenal cortex. In premenopausal women, more than 50% of the E1 is secreted by the ovaries. In prepubertal children, men and non-supplemented postmenopausal women, the major portion of E1 is derived from peripheral tissue conversion of androstenedione. Interconversion of E1 and E2 also occurs in peripheral tissue. Bioassay data indicate that the estrogenic action is much less than E2.
E1 is a primary estrogenic component of several pharmaceutical preparations, including those containing conjugated and esterified estrogens. In premenopausal women E1 levels generally parallel those of E2. After menopause E1 levels increase, possibly due to increased conversion of androstenedione to E1.

ELEVATED ESTRONE (E1) LEVEL:
Saliva E1 is elevated above reference range. This level is suggestive of supplementation or abnormal estrogen metabolism. Assess the Estrogen quotient (E3/[E2+E1]). If this is <1 then suggest the use of indole-3-carbinol and check serum TSH levels.
Suggest follow up testing to check morning void urine for 16OH, 4OH and 2OH E1 estrogen metabolites.

SALIVA E2 levels for a non-menopausal female should be assessed relative to the day of cycle that the specimen was collected.

SALIVA E2 level is adequate and within range.

The Estrogen Quotient is low and suggestive of an abnormal estrogen metabolism. Suggest checking morning void urine for E1 metabolites 16OH, 4OH and 2OH metabolites and their ratios. Also check serum TSH and LFT. Use of Indole-3-Carbinol/DIM has been shown to improve estrogen metabolism to correct ratios.

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SALIVA The Progesterone level is within range and suggestive of luteal phase. Aim for a ratio of E2:Prog of 1:200 (200 parts Progesterone to 1 part Estradiol) during this phase of cycle.

LOW MORNING SALIVA CORTISOL LEVEL:
Saliva cortisol level is below the mean range and suggests possible adrenal insufficiency. This also suggests a degree of adrenal hypofunction, maladaption/abnormal pacing with abnormal HPAA. If all four cortisol readings are also low, suspect adrenal fatigue. Suggest supplementation with DHEA and standard adrenal support. In this instance if the Cortisol level does not improve, suggest using Cortisol Acetate/Hydrocortisone supplementation for short interval. Cortisone acetate has a half life of only 4-6 hours. Suggest doses of 20mg in the AM, 10mg midday and 10mg afternoon for a period of up to 3 months and then review levels.

LOW NORMAL MORNING SALIVA CORTISOL LEVEL:
Saliva morning cortisol level is below mean range and suggestive of adrenal insufficiency. This suggests a degree of adrenal hypofunction, maladaption/abnormal pacing with abnormal HPAA. If all four cortisol readings are also low, suspect adrenal fatigue. Suggest supplementation with DHEA and standard adrenal support. Investigate melatonin and GABA levels.

ELEVATED TESTOSTERONE LEVEL:
Saliva Free testosterone level is elevated and suggestive current supplementation with androgen precursors such as testosterone, DHEA or Pregnenolone. If not supplemented then suggestive of Polycystic Ovarian Syndrome, Insulin Resistance, fibroids or endometriosis.

Tests ordered: CORTMORN,5Horm