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Green Lane and Auckland City Hospitals

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Sunday, August 11, 2019

(Room 5)

8:30 - 9:25 WS #152: Interpreting Endocrine Tests

9:35 - 10:30 WS #162: Interpreting Endocrine Tests (Repeated)

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Conflicts of interest

- Bayer
- Astra, Novo, Lilly, MSD,NZMS

78 year old complains of fatigue, general aches and mild cognitive impairment. No significant PMH.

Meds

Fluoxetine 20mg for depression
Atorvastatin 40mg
Omeprazole 40mg

- Sodium 123 mmol/l (135-145)

What other history do you want?

What examination findings are relevant?

What additional tests do you want?

Hyponatraemia

- Dilutional
- Depletional
- Euvolaemic =SIADH

SIADH

Always exclude hypothyroidism and cortisol insufficiency

Renin –aldosterone-urinary sodium

Low volume

–high renin –high aldo –low urinary sodium (<20)

-high ADH –concentrated urine (>> plasma)

High volume

-low renin-low aldo –high urinary sodium but variable

-low ADH-dilute urine

SIADH

Clinically euvolaemia (actually high in SIADH)

Low renin –low aldo – high urinary sodium (>40)

High ADH – concentrated urine (relatively)

Sodium low and clinically euvolaemic

Normal TFT and cortisol

Blood –sodium low, osmolality low

Urine –sodium high and osmolality > plasma

=SIADH

Addisons

Sodium low and not clinically examined

Blood –sodium low from urinary losses, osmolality low (2x sodium + potassium and glucose)

Urine –sodium high (no aldosterone)
-osmolality > plasma as DRY and ADH appropriately high

78 year old complains of fatigue, general aches and mild cognitive impairment. No significant PMH.

Meds

Fluoxetine 20mg for depression Fluid deprivation and withdraw Fluoxetine

Atorvastatin 40mg
Omeprazole 40mg

- Sodium 123 mmol/l (135-145)

What other history do you want? Vomiting, LVF

What examination findings are relevant? BP lying , standing, JVP, skin turgour, axillary sweating

What additional tests do you want? TFT, cortisol, urine sodium and osmolality

A 50 year old man on no medication presents with a wrist fracture.

BMD t score hip -3.5 and spine -1.3

Thoughts?
Tests?

A 50 year old man on no medication presents with a wrist fracture.

BMD t score hip -3.5 and spine -1.3

Thoughts?

Exclude secondary causes – Cushings, coeliac, myeloma, hyperaparathyroidism, hypogonadism (HIV)

A 50 year old man on no medication presents with a wrist fracture.

BMD t score hip -3.5 and spine -1.3

Calcium is 3.8 mmol/l (2.1-2.55)

What next?

A 50 year old man presents with a wrist fracture.

BMD t score hip -3.5 and spine -1.3

Thoughts?

Calcium is 3.5 mmol/l (2.1-2.55)

What next?

PTH 20 (1-6)

What next?

A 50 year old man presents with a wrist fracture.

BMD t score hip -3.5 and spine -1.3

Thoughts?

Calcium is 2.65 mmol/l (2.1-2.55)

What next?

PTH 4 (1-6)

What next?

A 50 year old man presents with a wrist fracture.

BMD t score hip -3.5 and spine -1.3

Thoughts?

Calcium is 2.65 mmol/l (2.1-2.55)

What next?

PTH 4 (1-6)

What next?

Urine calcium/creat high or low….

A 50 year old man presents with a wrist fracture.

BMD t score hip -3.5 and spine -1.3

Thoughts?

Calcium is 3.55 mmol/l (2.1-2.55)

What next?

PTH 0.4 (1-6)

What next?

A 23 year old female presents with weight loss and feeling hot.

T4 30 (10-22)
T3 24 (3-6)
TSH< 0.01

What clinical features are needed to make a diagnosis?

What additional tests are needed?

A 65 year old man is shown to have had mildly abnormal TFT for 2 years.

	T4 (10-20)	T3 (3-6)	TSH (0.4-4)
Jan 2014	18	5.4	0.01
June 2015	17	4.8	0.02
May 2017	19	5.7	0.04
June 2018	20	4.8	0.01
July 2019	19	5.9	<0.01

What further history and clinical signs are important?

What further tests?

What treatment?

A 75 year old female complains of fatigue.

T4 is 13 (10-20)
T3 is 3.1 (3-6)
TSH is 15 (0.4-4)

A 75 year old female complains of fatigue.

T4 is 13 (10-20)
T3 is 3.1 (3-6)
TSH is 6.4 (0.4-4)

A 75 year old female complains of fatigue.

T4 is 8 (10-20)
T3 is 2.5 (3-6)
TSH is 6.4 (0.4-4)

A 35 year old complains of weight gain, depression and proximal muscle weakness.

You are concerned she may have Cushings.

What simple examination and tests should you do before referral?

A 35 year old complains of weight gain of 8kg, depression and proximal muscle weakness.

You are concerned she may have Cushings.

What simple examination and tests should you do before referral?

BMI, weight distribution, muscle strength, BP.
Menstrual history.
HbA1c, creatinine and electrolytes.
TFT
24 hour UFC
1mg overnight dex test

35 year old with ED and poor libido.

No meds or PMH

Testosterone 4.5 (9-25)

What tests do you want?

35 year old with ED and poor libido.

No meds or PMH

Testosterone 4.5 (9-25)

What tests do you want?

LH 2 and FSH 3 (both normal)

T4 9 (10-22) and TSH 3 (0.4-4)

Where is the problem??

35 year old with ED and poor libido.

No meds or PMH

Testosterone 4.5 (9-25)

What tests do you want?

LH 2 and FSH 3 (both normal)

T4 9 (10-22) and TSH 3 (0.4-4)

Where is the problem??
MRI large pituitary tumour……

Cortisol 350 IGF1 normal

Prolactin
A. normal –whats the diagnosis

35 year old with ED and poor libido.

No meds or PMH

Testosterone 4.5 (9-25)

What tests do you want?

LH 2 and FSH 3 (both normal)

T4 9 (10-22) and TSH 3 (0.4-4)

Where is the problem??
MRI large pituitary tumour……

Cortisol 350 IGF1 normal

Prolactin (<350)
B.1500 –whats the catch in the diagnosis?

35 year old with ED and poor libido.

No meds or PMH

Testosterone 4.5 (9-25)

What tests do you want?

LH 2 and FSH 3 (both normal)

T4 9 (10-22) and TSH 3 (0.4-4)

Where is the problem??
MRI large pituitary tumour……

Cortisol 350 IGF1 normal

Prolactin (<350)
C.1500 –whats the catch in the diagnosis?

35 year old with ED and poor libido.

No meds or PMH

Testosterone 4.5 (9-25)

What tests do you want?

LH 2 and FSH 3 (both normal)

T4 9 (10-22) and TSH 3 (0.4-4)

Where is the problem??
Describe the hormonal abnormality.
MRI large pituitary tumour……

Cortisol 350 and IGF1 normal

Prolactin (<350)
D.200000 –whats the diagnosis?