Endocrinology Update

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Thyrotoxicosis Symptoms

- GI symptoms-Diarrhoea
- Fatigue
- Anxiety
- Irreg Menstruation
- Do not be put off the diagnosis if the classic symptoms are not present

Thyrotoxicosis Signs

- Tachycardia
- Warm hands
- Thyroid enlargement ?Bruit
- Eyes-T.E.D.

Thyrotoxicosis Differential Diagnosis

- Autoimmune-Graves'disease
- Thyroiditis-post-partum/painful
- Toxic nodular single/multiple
- Others-eg drugs

Investigations

- TSH
- Ft4
- FT3
- Thyroid antibodies-TPO/TSH rec
- Ultrasound-not usually helpful
- Isotope Scan -can be

Treatment

- Carbimazole-20-40mg (10mg in elderly)
- Propylthiouracil (PTU) 100-200mg bd

- Side effects-rash, hepatitis, agranulocytosis

- Monitor TFTS (with T3), ?FBC, ?LFTS

Treatment Duration

- Autoimmune-1-2 yrs-Relapse 50%+
- Thyroiditis-Not at all
- Nodular thyroid –Radioiodine/Surgery

Thyroid Eye Disorder

- Risk in Autoimmune Disorder
- Usually with Toxicosis (20%) but can be before/after/Hypo/euthyroid
- Commoner in smokers/Males

- Be aware and warn patients-(TEAMeD warning card)- re chemosis/oedema/diplopia-URGENT REFERRAL

Hypothyroidism

- Symptoms-can be variable
- Signs –often minimal
- Diagnosis FT4 and TSH ?TPOab
- Rx Thyroxine 50-150

Hypothyroidism controversies

- When to treat?
- Unstable control-compliance-(exclude coeliac, take at night, 1x weekly)
- T3
- Thyroid extract
- Low T4 normal TSH

Thyroid and Pregnancy Thyrotoxic

- Control on lowest possible dose
- PTU recommended
- Usually stable throughout but watch for PP thyroiditis

Thyroid and Pregnancy Hypothyroid

- Pre-pregnancy planning and ensure ‘optimal ‘ control
- Increase dose early (on >100mcg od). Optimal TSH (?<3.0)
- NB Previous thyrotoxicosis(Graves’)
- PP Reduce dose and watch

Testosterone
‘Male Menopause’

- Age
- Obesity
- Classic symptoms –ED and diminished libido/fatigue/wt gain.

Diagnosis

- ‘Low’ T
- Fasting/
- SHBG/Albumin-- Free Testosterone
- LH/FSH Prolactin/ Oestradiol

Aetiology

- Primary-raised LH/FSH
- Secondary-low/normal LH/FSH
- AGE/Obesity/Low/normal LH/FSH
- Drugs-Supplements/Opiates-?low LH/FSH

Treatment

- Gels-Tostran 2%-can easily titrate the dose
- Depot injections-Nebido

Risks/monitoring

- Prostate- exam and PSA
- T Levels
- FBC

Long-term risk/benefit Unclear

- Quality of Life
- Behaviour
- Life expectancy-Cardiac disease

Hypercalcaemia

- Primary Hyperparathyroidism-high PTH
- Malignancy –Low PTH
- Others

Investigations for Hypercalcaemia

- Calcium/Phosphate
- PTH
- 25(0H) Vit D

- 24 hr Urine Calcium

Hyperparathyroidism Refer for opinion

- Surgery-indication and specialist surgeon
- Monitor –annually, Ca, UEs, BP
- Medical Rx Cinacalcet For patients who should be treated surgically but unfit/unwilling

What not to measure?

- PTH if Calcium normal
- 25(OH) Vit D other than at Diagnosis-not if calcium normal
- Magnesium
- Phosphate
- US/Scans

Hypocalcaemia

- Secondary-Post –operative
- Primary-genetic/autoimmmune
- Check PTH, 25(OH)VitD, Mg esp if on PPI

Hypocalcaemia Treatment

- High dose VIt D
- Low dose Calcium supplements

- Aim is to render patient asymptomatic, with plasma calcium in low normal range and avoiding Hypercalciuria

Hypocalcaemia

- ? PTH Treatment

- Beware acute illness esp in pts with renal impairment

Polycystic Ovarian Disorder Diagnosis

- Possible-Symptoms-acne,hirsutism, irreg menses
- Probable-Symptoms and Investigations eg Hyperandrogenaemia-Measure Testosterone only
- Definite-Symptoms/investigations/scan

PCOS
Treatment

- Lifestyle-Wt loss/Exercise
- Metformin
- Anti-androgens-Topical/Cyproterone/Spironolactone
- Fertility-Clomiphene
- Risk of DM

Prolactin

- Amenorrhoea-Breast discomfort/Discharge
- Men-Dimished Libido/ED-Headache
- Drugs-Metaclopramide/antipsychotics

Treatment

- Cabergoline
- Bromocriptine
- Quinagolide

Hyperaldosteronism
?10% of all Essential Hypertension

- Consider in any Younger patient with Hypertension and on Triple therapy
- Low K+ (not always)
- Diagnosis-Aldosterone/Renin ratio –ideally Off Rx (Amlodipine/Doxazocin/Moxonidine)

Cortisol Deficiency

- Primary/Addisons
- Secondary-Pituitary

- Fatigue/Wt loss/Abdo pain/Pigmentation NB Hypothyroid

Cortisol Deficiency Diagnosis

- 9am Cortisol <100nmol/l-abnormal ?>300 normal
- Synacthen Test
- Beware Iatrogenic cortisol excess

Cortisol Excess
Cushings

- Very Rare
- Easily missed
- Consider with Hypertension/DM/Central adiposity and other signs

Cushings Diagnosis

- O/N Dexamethasone Suppression Test

- 1-1.5mg Dex at Midnight and 9am cortisol
- (<50nmol/l –normal, >130 abnormal)

- Beware Iatrogenic Steroid use

CASES

Case 1

- 40 yr old female
- Diagnosed hypothyroid 10yrs ago
- On 150mcg of thyroxine
- Feels tired

- Ft4 27pmol/l TSH 2.1mu/l

Case 1

- ? Compatible with current dosage
- Repeat with FT3
- FT3 4.5 pmo/l
- ? Assay interference-lab or supplements
- -If FT3 raised ?TSH resistance/TSH tumour

Funny thyroid tests

- Repeat with FT3
- Check compliance
- Check for supplements-Biotin
- Repeat using a different lab

Case 2

- Same pt
- Fatigue.
- FT4 18.2 TSH 2.1
- Wants T3!

Case 3

- 40yr female
- C/o Fatigue
- Ft4 15.1. TSH 7.8

Case 3

- Repeat
- Check TPO antibodies
- If raised and either symptomatic or TSH >10.0 Trial of treatment

Case 4

- 40 yr female
- Fatigue
- Ca 2.4 mmol/l PTH 8.1

Case 4

- Check/treat with Vit D
- ‘normocalcaemic hyperparathyroidism’

Case 5

- 25 yrs female c/o fatigue ‘ I have a hormonal problems Doctor’
- History-1 DURATION-2 SEVERITY-effect of exercise 3 BODY-WEIGHT 4 MENSTRUAL CYCLE
- Examination-Pulse. BP

CASE 5
Investigations

- FBC, ESR, ? Ferritin
- UES
- LFTS
- Calcium
- FT4 and TSH
- 9am Cortisol
- CRP

CASE 3
? Chronic Fatigue syndrome
Major Criteria

- Fatigue-Duration,Severity, worse after exercise (SEID)
- Sleep disturbance
- Memory /Concentration
- Pain-myalgia/arthralgia
- No primary Mood disorder

Minor Criteria

- GI symptoms-IBS
- Headache
- Sore throat but no lymphadenopathy
- ‘cystitis’
- Palpitations/dizziness
- Light and sound sensitivity

CASE 5
Diagnosis of CFS likely

- New onset but symptoms present for 4-6 months
- 2 or more Major Criteria
- Examination normal
- Investigations normal
- No primary psychological issues

CASE 6

- 60 yrs male
- c/o Fatigue/ Wt Gain/ED
- Testosterone 7nmol/l

Case 6

- Rpt Fasting-If above 8nmol/l probably ok
- ? SHBG/Albumin
- LH/FSH
- FBC
- ? Prolactin/Oestradiol

Case 6
? Trial of Treatment

- FBC
- PSA/Prostate Exam
- Low dose