

## **ENDOCRINE EXAM:**

## **THYROTOXICOSIS**

### **LOOK**

- Weight loss
- Anxiety
- Frightened thyrotoxic stare
- Patient may be pacing and unable to sit still

### **HANDS**

- Put arms out: fine resting tremor
- Onycholysis – rarely Graves
- Acropachy (clubbing)
- Palmar erythema
- Warmth
- Sweaty palms

### **PULSE**

- Sinus tachy
- !! Could be in atrial fibrillation if elderly !!
- collapsing “bounding” pulse

### **PROXIMAL MYOPATHY**

- test for weakness

### **REFLEXES**

- Brisk but not hyper-reflexive

### **EYES:**

- exophthalmos: !! bilateral = always Graves !! - look from the side or from above
- complications thereof = scleral injection, oedema of the conjunctiva ( “chemosis”)  
+corneal ulceration, inferior rectus muscle weakness
- Lid retraction and lid lag
- ?? IS THERE PTOSIS as well ?? there shouldn't be!

### **NECK:**

- Feel the thyroid from behind and from in front; Graves Dz may be enlarged all over and smoothly, while everything else will be nodular or unilateral.
- THYROIDECTOMY SCAR→ look for Trousseau's sign (hypoparathyroid)

### **ARMS:**

- Raise arms above head, keep em there: proximal myopathy means patient cant do that

### **CHEST:**

- Gynacomastia, occasionally.

### **HEART:**

- Systolic flow murmurs due to massive increase in cardiac output
- Atrial fibrillation in the elderly
- Congestive heart failure in the elderly

### **LEGS:**

- Pretibial myxoedema: spongy swelling of anterior tibia, elevated dermal nodules and plaques → ONLY GRAVES!

## **PRODUCTION OF HORMONES IS LOST IN ORDER:**

- 1) GH → dwarfism in kids  
→ insulin sensitivity in adults
- 2) PROLACTIN → failure to lactate on cue
- 3) GONADOTROPINS → reduced expression of secondary sexual characteristics
- 4) TSH → hypothyroidism
- 5) ACTH → hypoadrenalism and hypopigmentation

## **LOOK:**

- Short stature = reduced GH
- Pallor = reduced MSH due to reduced ACTH production
- Lack of body hair = Hypogonadism
- Finely wrinkled skin = hypogonadism
- Absence of secondary sexual characteristics = hypogonadism

## **BLOOD PRESSURE:**

- Postural hypo due to ACTH deficiency

## **FACE:**

- Multiple eye wrinkles = hypogonadism
- Hypophysectomy scars on upper lip
- Facial hair present? should it be?

## **VISUAL FIELDS:**

- bitemporal hemianopia
- Assess nerves 3, 4, 6 and ophthalmic branch of 5

## **FUNDOSCOPY:**

- Optic nerve atrophy? Pale useless disk

## **NECK:**

- enlarged thyroid due to hypothyroidism from reduced TSH

## **CHEST:**

- Hairless = hypogonadism
- Pale = reduced MSH from reduced ACTH
- Nipple pigment absent
- Breast atrophy = hypogonadism

## **GENITALS:**

- Loss of pubic hair = hypogonadism
- Atrophied testes? = normally 15 to 25 ml

## **ANKLE REFLEXES:**

- “hung up” reflexes of hypothyroid

**LOOK**

- Gigantism (from childhood) or Superhero Jaw (adult onset)

**HANDS**

- Wide spade-like with lots of sweating and warmth
- Thickened skin and osteoarthritis

**TINEL'S SIGN** for carpal tunnel median nerve compression

**!! PULSE !!**

**ARMS :**

- proximal myopathy: test deltoid and biceps power
- palpate ulnar nerve under the elbow: thickened?

**AXILLAE:**

- Tags? "molluscum fibrinosum"
- Greasy skin
- Acanthosis nigricans

**FACE**

- Supraorbital ridge + frontal bossing
- Jaw + tongue enlargement

**EYE**

- Bitemporal hemianopia

**FUNDOSCOPY**

- Optic nerve atrophy and hypertensive changes

**MOUTH**

- Splayed widely spaced teeth
- huge tongue
- protruding jaw

**NECK**

- Big multinodular thyroid and hoarse voice

**CHEST**

- Coarse body hair, gynecomastia
- kyphosis

**HEART**

- Cardiomegaly (!! IMPORTANT !!) – where's that apex
- Murmurs, arrhythmia

**ABDOMEN**

- Hepatosplenomegaly
- Testicle atrophy

**LOWER LIMBS**

- Hip and knee osteoarthritis
- Foot drop from common peroneal nerve entrapment
- Look for signs of diabetes as GH is a diabetogen (increases tissue resistance to insulin)

**ACTIVE DISEASE:**

- Increasing skin tags, excessive sweating, glycosuria, progressive visual field loss, enlarging goitre and headache

## **ENDOCRINE EXAM:**

## **CUSHINGS**

**Undress the patient completely and stand them up**

### **LOOK:**

- Moon-like fatty facies
- Central fat deposition
- Thin limbs
- Buffalo hump
- Vertebral crush fractures
- Bruises everywhere
- Steroid psychosis should become obvious at this point

**!!! EXCESSIVE PIGMENTATION = ACTH PITUITARY ADENOMA !!!**

### **FACE**

- Plethoric red, fat, hirsut, with acne spread all over
- Bitemporal hemianopia, optic nerve atrophy, papilloedema etc (pituitary adenoma)

### **ABDOMEN**

- Purple WIDE striae
- Adrenal mass
- Scars from previous adrenalectomy
- Hepatomegaly

**!! TEST URINE FOR SUGAR!!**

### **LEGS**

- Oedema
- Bruising
- Poor wound healing

**ADRENAL CAUSE =** abdo mass and gynecomastia

**ECTOPIC ACTH adenoma =** absence of cushingoid body habitus but lots of oedema and hypertension with marked weakness of proximal muscles

## **ENDOCRINE EXAM:**

## **ADDISONS**

**= adrenal hypofunction, very non-specific symptoms**

**LOOK:** cachexia

### **PIGMENTATION = ALL IMPORTANT!**

- Hyperpigmentation due to ACTH compensation
- Vitiligo if its an autoimmune

### **BLOOD PRESSURE**

- = postural hypotension, no catecholamines

## ENDOCRINE EXAM: Primary HYPERPARATHYRIDISM

~ **Stones, bones, abdominal groans.** ~

### **LOOK:**

- mental state: coma, convulsion, confusion?

### **HYDRATION:**

- Dehydrated from polyuria

### **FACE:**

- Look for BAND KERATOPATHY @ the eyes (rare sign)

### **BODY:**

- Look for evidence of multiple previous fractures

### **LOWER LIMBS:**

- Look for proximal myopathy
- + Pseudogout @ big toe

### **ABDOMEN**

- Tenderness from ulcers or stones?

## ENDOCRINE EXAM: PSEUDOHYPERPARATHYRIDISM

Same as primary HyperPara, but NO TETANY or neuromuscular effects!!

## ENDOCRINE EXAM: HYPOPARATHYRIDISM

= hypocalcaemia and therefore increased nerve excitability and tetany  
= neuromuscular consequences

### **TROUSSEAU'S SIGN:**

- Cuff the arm in BP cuff, inflate until blood supply lost : watch the thumb become strongly adducted and the fingers extend beyond the MCP
- = "maine d'acoucheur" the hand of an obstetrician trying to manually remove the placenta

### **CHVOSTEK'S SIGN:**

- Tap gently @ mastoid process under the ear;
- facial nerve will cause a brisk muscular twitch of the face!!

### **HYPER-REFLEXIA**

### **NAILS:**

- Fragile
- Infected

### **SKIN**

- Dry

### **TEETH**

- Deformed and rotting

### **EYES**

- Cataracts
- Papilloedema

## ENDOCRINE EXAM: PSEUDOHYPOPARATHYRIDISM

### **LOOK:**

- Tetany and skeletal abnormalities;
- short stature, short neck, stocky build

**HANDS: PATHOGNOMIC 4<sup>th</sup> and 5<sup>th</sup> finger shortening**

# **ENDOCRINE EXAM:**

# **SHORT STATURE SYNDROMES**

## **LOOK:**

- Height
- Percentile charts
- Turners, Downs, achondroplasia or rickets? Only 4 to choose from

## **IS THERE ANY SIGNS OF**

- Hypopituitarism
- Hypothyroidism
- Cushing's
- Sexual Precocity (premature puberty)

## **CHEST**

### **Auscultate:**

- Cyanotic congenital heart defect
- Cystic fibrosis coarse crackles all over lung fields?

## **ABDOMEN**

- Hepatic and renal failure symptoms

## **TURNERS**

- Fish mouth, webbed neck, sexual infantilism, hand and foot oedema, short 4<sup>th</sup> metacarpal, nail hypoplasia, micrognathia, ptosis, widely spaced nipples, low hair line

## **DOWNS**

- Small simple ears, single palmar crease, flat nasal bridge, hanging open mouth, protruding tongue, short broad hands, hyperflexible joints, straight pubes and mental deficit

## **RICKETS**

- Defective bone mineralisation due to Vit. D deficit
- = tetany, hypotonia, proximal myopathy, bowing of radius/ulna/tibia/fibula, Harrison's sulcus (when lowermost ribs protrude deep into the chest cavity)

## **ACHONDROPLASIA**

- = autosomal dominant cartilaginous pathology
- short stature, short limbs, but NORMAL SIZED TRUNK
- BIG HEAD with saddle shaped nose,
- Exaggerated lumbar lordosis
- Spinal cord compression!

## **ENDOCRINE EXAM:**

## **HIRSUTISM**

**Excessively hairy woman: Must figure out if virilised or not:**

**VIRILISATION = MALE secondary characteristics, eg.**

Clitoromegaly  
Frontal hair recession,  
Central fat distribution, less fat on hips and more on abdomen  
Deepening of the voice  
Breast atrophy  
Increased musclebulk of hands and legs  
Male pattern of pubic hair (creeping up towards umbilicus)  
ALL THIS MEANS THERES AN EXCESS OF ANDROGENS

**ALSO LOOK FOR:**

Hair: face, midline chest, midline back  
Male baldness pattern (with widows peak)  
Obvious acromegaly or cushings  
Clear haemorrhagic blisters on the hands (*porphyrea cutanea tarda*)

**AXILLAE:** might have tags

Also will have acanthosis nigricans if the patient has polycystic ovaries

**ABDOMEN:**

palpate for adrenal masses and huge polycystic ovaries

## **ENDOCRINE EXAM:**

## **GYNAECOMASTIA**

**Must determine True (ductal) or False (just fat being deposited)**

**!! LOOK FOR TENDRENESS AND BILATERALITY (might be a malignancy!)**

**LOOK for**

Klinefelters syndrome: tall skinny patients with small firm testes  
Panhypopituitarism  
Chronic liver disease  
Thyrotoxicosis

**VISUAL FIELDS:**

Bilateral hemianopia

**GENITALS:**

Look for sexual ambiguity (congenital)  
Testes: absence? Normal size?

**LOSS OF SECONDARY CHARACTERISTICS?**

# **ENDOCRINE EXAM:**

# **DIABETES MELLITUS**

## **LOOK:**

- Dehydrated?
- Comatose?
- Kussmaul Breathing ("air hunger", deep and rapid) = ketoacidosis
- Obese? (type 2)
- Recent weight loss
- Abnormal endocrine face? Eg. Cushing's, acromegaly?
- Pigmentation: bronze? = haemochromatosis

## **BEGIN WITH LOWER LIMBS:**

### **Skin:**

- Hairless and atrophied with loss of subcutaneous tissue
- Ulcers
- Infections, eg. cellulitis, boils, fungus
- Pigmented scars
- Fistulae with underlying abscess
- Muscle wasting
- Charcot's joint (horribly swollen due to repeated injury)

## **PALPATE LEG PULSES and TEMPERATURE OF EXTREMITIES**

- Check capillary return
- Auscultate femoral and popliteal bruits

## **!!! Neuro exam @ the lower limbs !!!**

## **UPPER LIMBS:**

- Look at the injection sites
- Blood pressure lying and standing (autonomic neuropathy)

## **EYES**

- Test visual acuity
- Look for Argyll-Robertson pupil (accommodates but does not react to light)
- Cataracts

## **FUNDOSCOPY**

- Look for proliferative retinopathy, dot-and-blot haemorrhages and microaneurysms

## **NEURO EXAM OF CN 3, 4, 6**

- (diabetic 3<sup>rd</sup> nerve palsy affects movement but not the pupil reflex)

## **EARS:**

- Infected?

## **MOUTH**

- Candida thrush?

## **NECK + SHOULDERS:**

- Carotids: bruit?
- Scleroderma?
- Acanthosis nigricans?

## **ABDOMEN:**

- hepatosplenomegaly?



## **LOOK:**

- Short stature?
- Obvious head and limb deformity?

## **HEAD, FACE:**

- Scalp enlargement? Frontal and parietal areas should be thickened
- PALPATE FOR WARMTH over bony areas
- Prominent skull veins?
- Bronchial breath sounds might be heard when auscultating the skull!!
- Look for swollen tender warm SARCOMA (1% of patients get this)

## **EYES:**

- Acuity and fields;

## **FUNDOSCOPY:**

- Look for optic nerve atrophy

## **CRANIAL NERVES:**

- ALL must be tested, but look for hearing loss especially

## **NECK:**

- Short, with low hairline (basilar invagination)
- Head held in extension, neck movements decreased
- JVP: high cardiac output?

## **HEART:**

- Look for heart failure

## **BACK:**

- Kyphosis? Scoliosis?
- Localised tenderness?
- Systolic bruits over vertebral bodies?

## **LEGS:**

- Anterior bowing of tibia?
- Lateral bowing of femur?
- Bony warmth/tenderness?
- Warm swelling?? SARCOMA??...

## **NEURO EXAM of lower limbs:**

- Look for evidence of partial paraplegia