

## ENDOCRINOLOGY BOARDS ABIM EXAM LATEST VERSION 2023-2024 ACTUAL EXAM 180 QUESTIONS AND CORRECT DETAILED ANSWERS WITH RATIONALES|ALREADY GRADED A+

What are primary, secondary, and tertiary disease? - ANSWER- **Primary** - problem with the gland that secretes the hormone (ie: thyroid doesn't produce thyroid hormone)

**Secondary** - problem is the gland that controls the primary gland (ie. pituitary doesn't produce TSH to stimulate the thyroid)

**Tertiary** - problem with the gland that controls the secondary gland that controls the primary gland (ie. hypothalamus not producing TRH ->no TSH from pituitary -> no T3/T4 from thyroid)

How does the hypothalamus control the pituitary? - ANSWER- **Controls the anterior pituitary via hormones**

**Controls the posterior pituitary via neurohypophysis - direct nerve stimulation**

Posterior pituitary functions - ANSWER- **Secrete ADH and oxytocin**

ADH regulation - ANSWER- **Anterior pituitary - osmoreceptors to control ADH release and thirst**

**Increased release rapidly with elevated osmolarity**

**Also see increased release with nausea**

ADH osmolar release set point is affected by:

Lower set point (release at lower osm) with pregnancy and pre-menses

Higher set point with chronic hypovolemia, acute HTN, corticosteroids

Anterior pituitary - hormones and controls (6 hormones) - ANSWER- 1.

ACTH - peak 3-4 am, nadir 10-11pm; stimulates corticosteroids and androgens from adrenals; increase with corticotropin releasing hormone, physical/psych stress

2. Growth hormone - GHRH increases, somatostatin decreases, both from hypothalamus

3. LH & FSH - produced by gonadotrophs; increased by pulsatile secretion of GnRH from hypothalamus; Inhibin from ovary & testes decreases FSH (only) production

4. PRL - tonic inhibition from hypothalamic dopamine; increase with sleep, stress, lactation, nipple stimulation; Metoclopramide, phenothiazines (decrease dopamine) increase PRL; Hypothyroid modestly increases PRL

5. TSH - stim by TRH from hypothalamus, inhibited by T3, T4, somatostatin

Pituitary adenoma cell types - ANSWER- 1. Lactotrophs - secrete PRL; tied, most common macroadenoma

2. Gonadotrophs - tied, most common macroadenoma; presents as mass effect +/- silent or panhypopit or gonadotropin hypersecretion

3. Somatotrophs- acromegaly

4. Corticotrophs - Cushing's

5. Thyrotrophs - hyperthyroidism (least common)

## 6. Mixed (somatotrophs+lactotrophs) - acromegaly + hyperPRL

Mass effect sx of pituitary mass - ANSWER- HA, diplopia, visual field defect, seizures; occasionally can get CNS rhinorrhea

Dx of pituitary adenoma - ANSWER- Sx first

Check MRI

Labs - PRL, IGF-1 (for acromegaly), 24 hr urine free cortisol or 1mg overnight dexamethasone suppression test (for excess) or ACTH stim test (for deficiency), TSH, FT4, alpha subunit of FSH, LH (confirms pituitary origin)

If mass on MRI, but all labs normal, likely a non-pituitary tumor - craniopharyngioma, meningioma, eosinophilic granuloma, histiocytosis X, pituitary mets

# learnexams

Empty sella syndrome - ANSWER- Can be misread and be normal multiparous women in 90% - pituitary compressed by CSF, but functions normally

No treatment if no hormone abnormalities

Symptoms and labs in prolactinoma - ANSWER- Most common functional tumors; usually microadenomas, can be space occupying lesions

Elevated PRL->decreased release of GnRH->decreased LH/FSH-> decreased libido, ED in men, amenorrhea and hirsutism in females; Increased size=increased PRL, so if > 1cm and PRL<100, it's not a prolactinoma

Men present later->only decreased libido, so present as space occupying lesion (visual field defects)

Can cause galactorrhea in women, decreased bone mineralization

Causes of increased PRL - ANSWER- Prolactinoma, phenothiazines, amitriptyline, metaclopramide (all decreased dopamine), estrogen (inhibits dopamine->elevated PRL in pregnancy), hypothyroidism

Treatment for prolactinoma - ANSWER- Begin treatment when neuro sx from size or sx of hypogonadism

Medical - dopamine agonists: Cabergoline and bromocriptine

Cabergoline -better tolerated, less nausea, 2x/wk dosing; increased valve dz if high doses, contraindicated with valve dz, known lung dz, retroperitoneal fibrosis

Surgery - is can't tolerate meds; transsphenoidal; often recurs

Radiation- to eradicate residual tumor post-surgery

Treating prolactinoma in pregnancy - ANSWER- Stop meds

Observe for sx, do visual field testing

1/3 enlarge in pregnancy - if enlarges enough to cause sx, restart bromocriptine (safe in pregnancy)

Growth hormone regulation - ANSWER- Suppressed - hyperglycemia, somatostatin, chronic steroids

Stimulated by - hypoglycemia, estrogens