

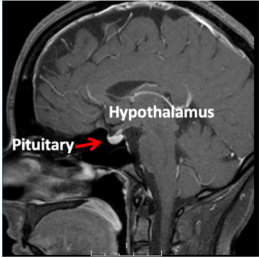
Neuroendocrine causes of fatigue

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Pituitary physiology

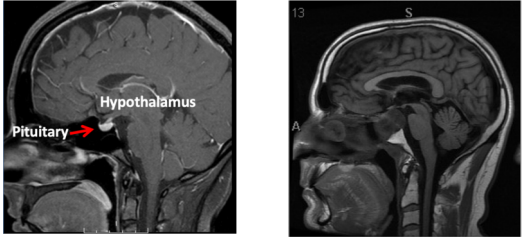
Anterior Pituitary:
ACTH → cortisol
TSH → thyroid hormone
FSH/LH → estrogen/testosterone
Prolactin
Growth hormone




Hypothalamus
Pituitary →



Pituitary hormone insufficiency



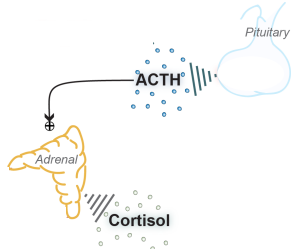
Hypothalamus
Pituitary →



Neuroendocrine causes of fatigue: adrenal insufficiency

Adrenal insufficiency:

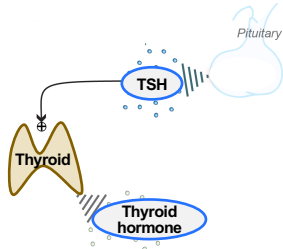
- Fatigue
- Loss of appetite
- Nausea/vomiting/diarrhea
- Weight loss
- Can be life-threatening if untreated



Neuroendocrine causes of fatigue: hypothyroidism

Hypothyroidism:

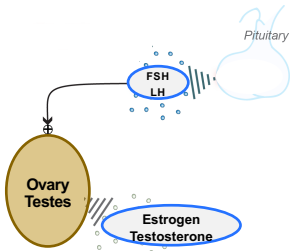
- Fatigue
- Dry skin/hair
- Constipation
- Anemia



Neuroendocrine causes of fatigue: hypogonadism

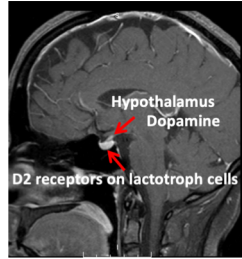
Hypogonadism:

- Fatigue
- Decreased muscle mass
- Low libido
- Decreased bone density

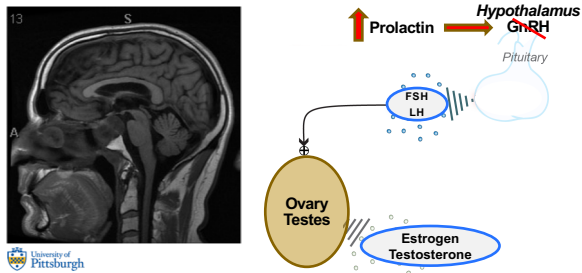


Neuroendocrine causes of fatigue: hyperprolactinemia

Inhibition of prolactin secretion by dopamine



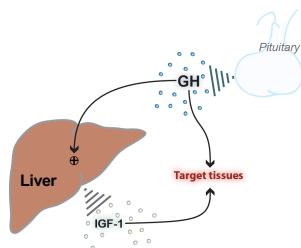
Neuroendocrine causes of fatigue: hyperprolactinemia → hypogonadism



Neuroendocrine causes of fatigue: growth hormone (GH) deficiency

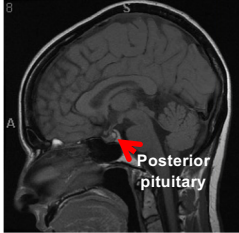
GH deficiency:

- Fatigue
- Decrease in bone density
- Decrease in muscle mass



**Neuroendocrine causes of fatigue:
diabetes insipidus**

Diabetes insipidus:
-Anti-diuretic hormone (ADH) deficiency
-Drinking and urinating frequently (often hourly overnight)



Hypopituitarism → fatigue

-Adrenal insufficiency
-Hypothyroidism
-Low estrogen/testosterone
-Hyperprolactinemia
-Growth hormone deficiency
-Diabetes insipidus



Thank you

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