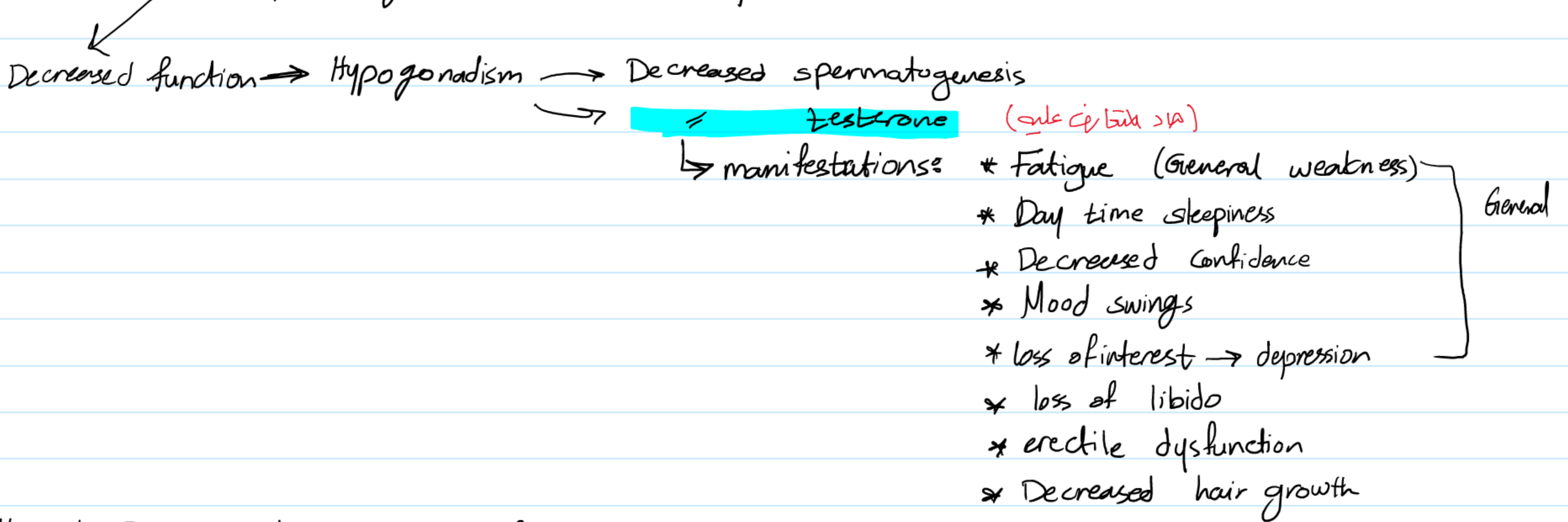


← الكونكريت كارت / الكونكريت

* Reproductive System:
→ pathophysiology of any disease

* Testicles and Ovaries are gonads (Endocrine Glands)
↳ function: spermatogenesis + testosterone production



* How to Diagnose hypogonadism?

- History
- Physical Examination (from any TextBook)
 - ↳ Decreased hair growth
 - ↳ Examine the Breast (Gynecomastia)
 - ↳ Examine the Genitalia (size, consistency of testicles)
- Measure the testosterone to confirm your suspicion

* Testosterone is secreted normally from Leydig cells in testicles, secreted into the blood.

* Testosterone in the Blood → Bound to proteins → Same Bound to sex hormone Binding Globulin (total testosterone)
↳ Bound to Albumin (loose binding)
↳ free form (what is measured in hypogonadism)

* What is the Bio available testosterone?

Free form + Albumin Bound testosterone

نظرياً الأجزاء في نظرياً
الحصة إذا كان هناك hypogonadism
سكن لا يوجد، إذا كان كذا في ربط
Bioavailable testosterone levels
with manifestations of Hypogonadism

* Free testosterone → ^{نظرياً} Calculated testosterone (estimation Based on several factor using machines)
↳ Measured = → measured By Dialysis equilibrium (expensive and hard)

How Do We measure it in Jordan?

By measuring total testosterone - (sex hormone Binding Globulin + Albumin)
= Estimated free testosterone

* Testosterone has circadian level (high in the morning, low in the evening) so it should be tested early in the morning

* Testosterone is secreted in a pulsatile fashion → so we do pooled blood sample
(sample: (8am, 9am, 10am) all mixed together to measure the average)

* Types of Hypogonadism: → Primary (the problem is in the testicles)
↳ Central (" " " " " Hypothalamus or pituitary)
GnRH → FSH, LH → Testosterone

* Central Hypogonadism → if the problem is in the pituitary → Secondary
↳ " " " " " Hypothalamus → Tertiary