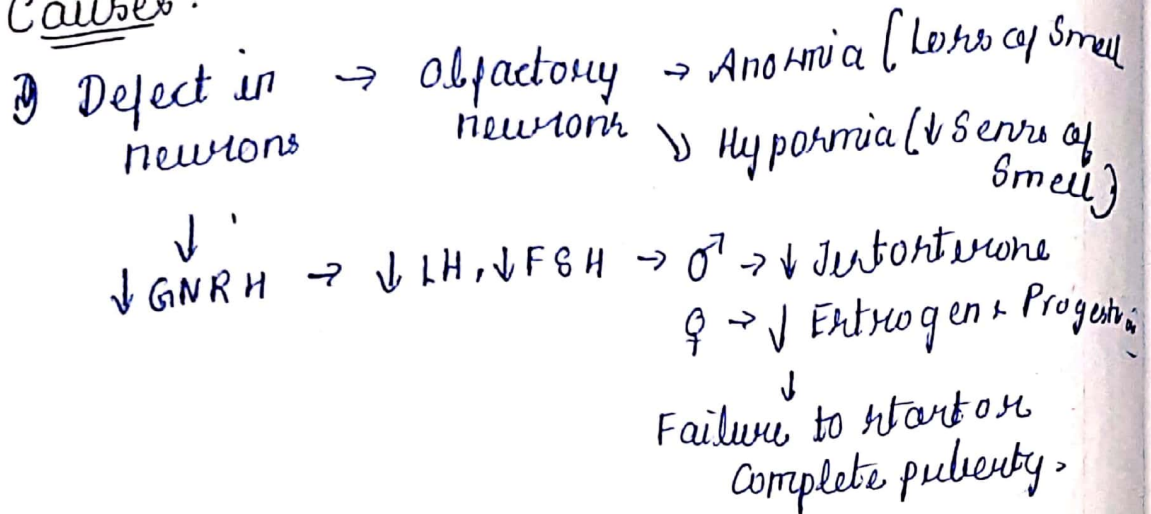


Kallmann Syndrome (Hypogonadotropic hypogonadism)

- Endocrine disorder causes decrease in sex hormones (σ^7 - Testosterone, ϕ $\rightarrow$ Estrogen, Progesterone) which cause failure to start or complete Puberty.

Causes:



C/F:-

	<u>Male</u>	<u>Female</u>
Primary Sexual character	$\rightarrow$ Small Penis & Testes $\rightarrow$ Improper Testicular descent $\rightarrow$ Low Sperm Count	$\rightarrow$ Amenorrhea $\rightarrow$ Oligomenorrhea
Secondary Sexual character	$\rightarrow$ Lack of Facial hair $\rightarrow$ Low muscle $\rightarrow$ No deep voice	$\rightarrow$ Lack of Breast $\rightarrow$ Lack of Pubic hair

INFERTILITY

- Non Reproductive $\rightarrow$ Osteoporosis / Osteopenia.
- Defect in midline structures (Cleft palate / cleft Lip)

Diagnosis:-

- $\rightarrow \downarrow$ GNRH, $\downarrow$ LH, FSH, $\downarrow$ Testosterone, Progesterone, $\downarrow$ Estrogen.
- $\rightarrow$ Small Test, $\rightarrow$ Sperm Count
- $\rightarrow$ Crete Mutation.

Treatment $\rightarrow$ Infertility Treatment Hormone Therapy