

Estimation of Prolactin

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Prolactin is a 23 kDa single chain protein of 199 amino acids synthesised and released principally by lactotrophs in the anterior pituitary gland

Functions of Prolactin

:The main actions of prolactin are listed below

Initiate milk production by alveolar cells (**lactogenic**)-

Maintain milk production once it has been-established (**galactopoietic**)

Proliferation of alveolar and duct cells (**mammogenic**)-

Regulation of Prolactin Secretion

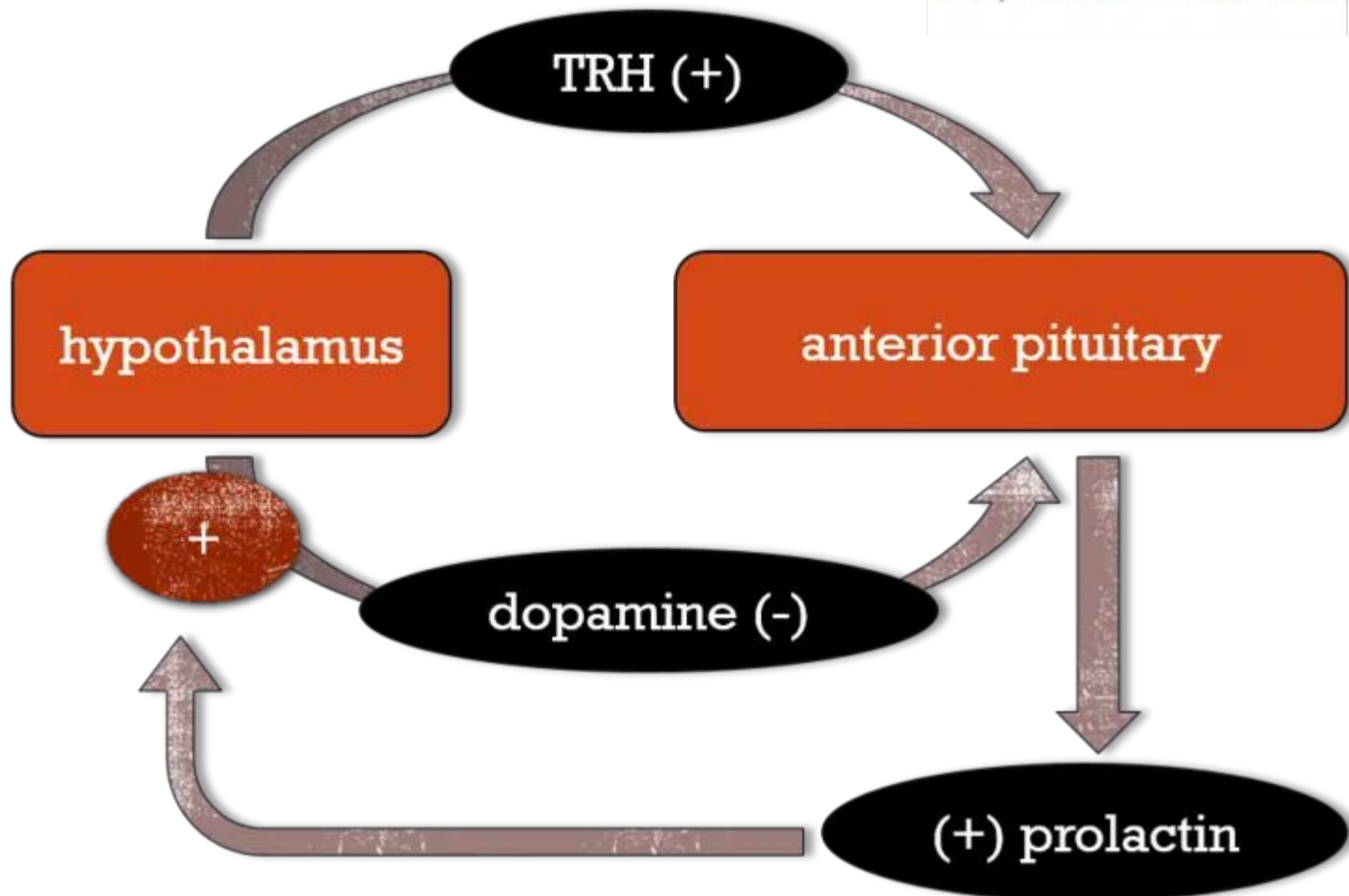
Prolactin release is inhibited by dopamine (**DA**), known in this context as a PRL-inhibitory factor (**PIF**)

Suckling is the most powerful stimulus for PRL release.

Stimulation of the nipple sends signals via **afferent neural pathways** up through the spinal cord. This inhibits dopaminergic neurons in the hypothalamus. Thus, there is inhibition of an inhibitory neurotransmitter. This is known as disinhibition

Thyrotropin releasing hormone (**TRH**), released from the hypothalamus, also stimulates the release of prolactin. Furthermore, oestrogens increase the sensitivity of lactotrophs to TRH, as well as decreasing their sensitivity to dopamine inhibition

Prolactin regulation



Hyperprolactinaemia : Condition in which levels of the .hormone prolactin are higher than normal

Symptoms :include milky nipple discharge and menstrual .irregularities in women, erectile dysfunction in men

?What causes hyperprolactinaemia

increased prolactin secretion from the pituitary gland-1

In women, physical or psychological stress, pregnancy and nipple-2 .stimulation have all been found to increase prolactin levels

In both women and men, chronic kidney disease and-3 .hypothyroidism

.Certain drugs and medical conditions-4

Treatment includes medications, surgery, radiation therapy

.Involves endocrinology, endocrine surgery•

Procedure of prolactin blood test ?

Preparation

A prolactin blood test typically requires no specific preparation, but it's advisable to adhere to the instructions provided by your healthcare provider.



Sample Collection

The test involves collecting blood from a vein in the arm, which is cleaned, visible, and inserted into a needle.

Post-Collection

Following blood collection, a bandage is applied to the puncture site to prevent bleeding, and minor discomfort is common during the procedure.



Laboratory Analysis

Blood samples are sent to a laboratory for analysis to measure prolactin levels, typically reported in nanograms per milliliter (ng/mL) or microinternational units per milliliter (μIU/mL).

Interpretation

Healthcare providers interpret prolactin levels in patients based on health, medical history, and symptoms, potentially indicating conditions like hyperprolactinemia, pituitary tumors, or hormonal imbalances.



Reference range

Adult female: 3-27 ng/ml
Pregnant female: 20-400 ng/ml
Adult males are 3-13 ng/ml









**Thank you for
listening**