

Oxytocin

Oxytocin is a peptide hormone produced in the hypothalamic nuclei (more in the *nucleus paraventricularis*, less in the *nucleus supraopticus*). The nuclei are formed by the bodies of magnocellular neurons. The axons of these neurons transport oxytocin using the transport protein neurophysin I to the neurohypophysis (*posterior lobe of the pituitary gland*), from where the hormone is released into the blood.

Effects of oxytocin

The hormone is used significantly during childbirth and during motherhood. The number of oxytocin receptors increases towards the end of pregnancy. At the beginning of birth, the release is stimulated by the dilation of the cervix. During breastfeeding, there is a **pulse** release, which is a response to the irritation of the sensitive nerve endings breast gland.

Oxytocin

1. Causes contraction of the myoepithelial cells of the ducts of the mammary gland. The contraction of these cells leads to 1 min^[1] to eject milk.
2. It leads to the contraction of the smooth muscle of the uterus, which intensifies labor activity during childbirth, facilitates the expulsion of the placenta in the postpartum period, and helps the physiological involution of the uterus during six months of labor.
3. It is released during orgasm. In women it causes contraction of the uterus, in men it causes contraction of the smooth muscle of the ejaculatory ducts.
4. Stimulates the emergence of pleasant feelings and induces caring and protective behavior in both men and women (often called the love hormone).

Links

Related Articles

- Neurohypophysis
- Hormone

References

1. KITTNAR, Otomar – ET AL.,. *Medical Physiology*. 1. edition. Grada, 2011. 790 pp. pp. 511. ISBN 978-80-247-3068-4.

References

- GANONG, William F. *Review of Medical Physiology*. 20. edition. Galen, 2005. 890 pp. ISBN 80-7262-311-7.
- KITTNAR, Otomar. *Medical Physiology*. 1. edition. Grada, 2011. ISBN 978-80-247-3068-4.

ncl. paraventricularis and *ncl. supraoptic* hypothalamus

9 amino acids

mammary gland, uterus

for G-protein coupled oxytocin

(OXTR)