

## Functioning of oxytocin during crucial period of women .

Daniel Martins\*

Department of Neuroimaging, Institute of Psychiatry, Psychology & Neuroscience, Kings College London, London, United Kingdom

Accepted Date August 16, 2021

### Description

Oxytocin is a hormone produced in the hypothalamus and is secreted into the bloodstream by the posterior pituitary gland. Secretion depends on electrical activity of neurons within the hypothalamus - it's released into the blood when these cells are excited. It is documented for its role in parturition and lactation. The principal functions of which are to stimulate contractions of the uterus during labor, to stimulate the ejection of milk (letdown) during lactation, and to promote maternal nurturing behavior. Oxytocin may be a hormone that functions as a neurotransmitter within the brain. It's thought to be a drive behind attraction and caregiving, and even controls key aspects of the genital system, childbirth, and lactation. In addition, manufactured oxytocin is often given to speed up delivery of the placenta and reduce the risk of heavy bleeding by contracting the uterus and also sometimes given to induce labour, if it's not started naturally. The two main actions of oxytocin within the body are contraction of the womb (uterus) during childbirth and lactation. Oxytocin stimulates the uterine muscles to contract and also increases the assembly of prostaglandins, which further increase the contractions. During breastfeeding, oxytocin promotes the movement of milk through the ducts within the breast, allowing it to be excreted by the nipple. The pituitary gland secretions are responsible for the peripheral functions of the hormone. The secretions from centrally projecting Oxytocin neurons that differ from those that enter posterior pituitary or that are collaterals from them are responsible for its behavioral effects. Parturition and uterine contraction: Oxytocin causes contraction of uterine muscles and is usually wont to induce labour in clinical practice. Towards term, oxytocin secretion gradually increases and reaches its peak just before parturition. Also, number of oxytocin receptors increases within the uterine muscles. Due to increased plasma level of oxytocin and increased sensitivity of uterus to oxytocin, uterus contracts vigorously resulting in expulsion of foetus.

Thus oxytocin initiates and completes parturition. Parturition may be a neuro-humoral reflex, during the primary few weeks

of lactation, Oxytocin that's released thanks to sucking by the infant results in mild but often painful contractions. This afterward serves to help uterine involution. However Oxytocin is important for milk ejection, it's believed so because the Oxytocin secreted from pituitary cannot re-enter brain because it cannot cross the barrier.

Milk ejection: Expulsion or discharge of milk from the breast of mother into mouth of baby when baby starts suckles during breast feeding then it is known to be milk ejection reflex or milk let-down reflex. At an equivalent time, oxytocin is released into the brain to stimulate further oxytocin production. Once the baby stops suckles, the production of the hormone stops until the next feeding. Action of Oxytocin in the mammary glands causes ejection of milk into the sub areolar sinuses, from where it is excreted. As the baby starts suckles at the nipple, an impulse will be generated and is transmitted to the hypothalamus *via* spinal nerves. This nerve signal causes Oxytocin secretion from the neurosecretory magnocellular nerve terminals of the posterior pituitary gland. The direct effect of Oxytocin on the myoepithelial cells surrounding the milk cistern causes these cells to contract and propel milk towards outside. Oxytocin is additionally believed to cause an indirect effect on milking through the hormone, prolactin. In addition oxytocin performs a good spectrum of functions, Oxytocin may be a hormone with great potential and it's an excellent facilitator of life.

### \*Correspondence to

Daniel Martins,

Department of Neuroimaging, Institute of Psychiatry, Psychology & Neuroscience,

Kings College London,

London, United Kingdom

Email: Martindaniel30@gmail.com

**Citation:** Martins D. Functioning of oxytocin during crucial period in women. *Clin Endocrinol.* 2021;4(1):1