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### Oxytocin: A Dissolved Slow Poison in Cattle Milk

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#### Abstract

Oxytocin is the natural hormone used to help to start or continue labour and to control bleeding after delivery. It is also some time used to help milk secretion in breast feeding. But oxytocin is used to maximise the milk production by dairy owners which not only causes terrible problem in bovines, but also threatens human health. Despite being illegal, these are available everywhere. The oxytocin plays an important role in pair bonding, social cognition and functioning and fear conditioning. Oxytocin also serves a role in metabolic homeostasis and cardiovascular regulations. The use of oxytocin must be carefully managed to avoid misuse.

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#### Introduction

It is quite visible that Dairy owners are using Oxytocin hormone injection to promote lactation of more milk. It is a basically schedule H drug and recommended in human being use. But its use in lactating animals is punishable offence under Animal Cruelty Act 1960 Dhara 12. If it is used twice a day for milk production. Animal go through twice a day for labour pain. It damages the reproductive organs and fertility efficiency. The main side effect of oxytocin is the lactation period of milch animals and conception period of 10 years reduce to 3-4 year and milch animal become dry.

Milk obtained after use of oxytocin lactation have high quantity of Sodium chloride zinc and excess amount of Carbon and Excess use of oxytocin has a adverse effect in human metabolic activity. Milk containing oxytocin develop hormonal imbalance in human body. It also develop vomiting tendency and also effect nervous disorder. There are the chances of more abortion then normal delivery in milch cattle. Human being also suffer from severe side effects of oxytocin. Due to lower production of progesterone hormone in ladies menstruation cycle become irregular. And in male member consumption of oxytocin effected milk increases the sterility. Oxytocin hormone is produced from hypothalamus of post. pituitary both in human and (3) cattle along with production of vasopressin hormone.

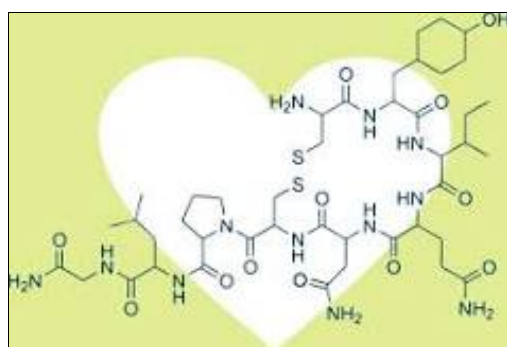
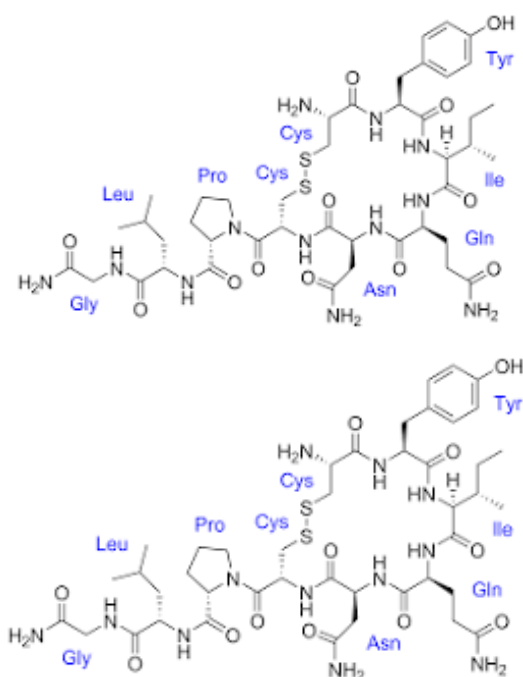
Hormone. It provide contraction of uterus and play a positive role in normal parturition and also play important role in normal milk production in both human and animals. It is in blood circulation for 1-3 minute and effective for normal milk production, but the dairy owners are using it for squeezing the udder so that max. Milk can be drained out. But it completely destroy the udder and uterus and completely uterus cycle and animal become sterile.

In under veterinary council act the use of oxytocin schedule H use is punishable offence if some dairy owner is arrested to use it he should be fine of Rs.1000.00 or 2 year prison or both even milch animal can be confiscated. No retailer of medicine can sell it without the prescription of registered veterinary officer it should be only sold in ampule form not in blister pack. Violation of marketing is offence under drug and cosmetic act 1940 and drug control act 1950.

#### Structure of Oxytocin

Oxytocin is a hormone and neuropeptide that plays a crucial role in social bonding, sexual reproduction, and childbirth. It is produced in the hypothalamus and released by the posterior pituitary gland. Oxytocin is involved in various physiological and behavioral process, including uterine contractions during labor, milk ejection during breastfeeding, and social behaviors like bonding and trust.

Sir Henry H dale H dale first identified oxytocin and its uterine contractile properties in 1906. oxytocin is composed of nine amino acids with a disulphid bridge between the cysteines 1 and 6 residue (4)



### Key Functions and Effects

- **Childbirth and Lactation:** Oxytocin is essential for initiating and regulating uterine contractions during labor and for milk ejection during breastfeeding.
- **Social Bonding and Behavior:** Oxytocin is often called the "love hormone" due to its role in social bonding, trust, and attachment. It influences behaviors like affection, empathy, and social recognition. (5)
- **Sexual Activity:** Oxytocin is released during sexual activity and may be involved in erections, orgasms, and sperm transport.
- **Stress and Anxiety:** Oxytocin can have a calming effect and may help reduce stress and anxiety levels.
- **Other Potential Roles:** Research suggests oxytocin may

also play important role in various other functions, including pain management, appetite regulation, and wound healing.

### Role of Oxytocin

While often associated with female reproductive functions, oxytocin is also important in men. It plays a role in sperm production and transport, as well as sexual activity and bonding. High level of oxytocin then normal is very rare in females and is called oxytocin toxicity. It results in an overactive uterus, causing an increase in uterine muscle mass which limits pregnancy due to not being enough space in uterus to hold the fetus. In males high levels of oxytocin have been linked to being prostatic hyperplasia (BPH)

### Boosting Oxytocin

Natural ways to boost oxytocin levels include:

- **Social Interaction:** Spending time with loved ones, engaging in physical touch (like hugs), and building strong relationships.
- **Acts of Kindness:** Performing acts of kindness and generosity can also trigger oxytocin release.
- **Physical Activity:** Regular exercise can positively influence oxytocin levels.

### Mindfulness and Meditation

Practices like mindfulness and meditation can help promote feelings of calm and well-being, which may be linked to oxytocin release.

Oxytocin injection is a synthetic hormone that helps speed up delivery or controls bleeding after childbirth. (6 & 7)

### Effect of Oxytocin injection in Milk

Dairy farmers in India have been known to misuse oxytocin injections to increase milk production. The misuse of oxytocin on dairy animals sparked concerns about its potential adverse health effects on humans who consume milk from treated cows. These effects include male impotence, early puberty and cancer. Studies indicate that oxytocin is relatively stable in milk even under normal boiling conditions. Research has shown that radioactive oxytocin can transfer into the milk of treated animals and has been detected in milk.

### Toxicity Caused by Oxytocin

High dose and incorrect oxytocin administration of the oxytocin can lead to serious and even life-threatening adverse effects. These adverse effects include water intoxication, severe blood pressure changes, heart problems, and even death (8). Therapeutic doses of oxytocin are generally safe and effective, particularly for inducing labor and controlling postpartum bleeding. Improper use can result in dangerous consequences such as seizure, coma, and uterine rupture.

### Conclusion

In summary, oxytocin is a natural hormone. Controlled use of this, like other potent medication, is very helpful. Its administration requires precise dosing and careful monitoring to avoid severe side effects that can resemble poisoning. The effects of oxytocin are highly dependent on the dose, the method of administration, and the patient condition when given at appropriate safe and effective medication used primarily in obstetrics. Because of its potential for harm, when misused, oxytocin is listed as a high-alert medication by organizations like the Institute for Safe Medication Practices.

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