How does intramuscular injection differ from intravenous administration?

Both administration methods are completely acceptable and effective, the choice of administration method usually depends on the situation.

- If a venous cannula is available, prophylactic administration of oxytocin is preferred intravenously.
- In case of intravenous administration, the effect is almost immediate, but the duration is short-lived, which is why the oxytocin infusion is continued for about 1 hour if needed and sometimes even longer.
- If there was no need to insert a venous cannula during delivery, oxytocin is administered as an intramuscular injection. Usually, either the thigh or gluteal muscles are chosen.
- In case of intramuscular administration, the effect is slower (it takes three to seven minutes), but lasts longer, usually up to one hour.

Possible side effects

The most common side effects after administration of oxytocin:

- headache
- tachycardia, i.e. accelerated heart rate
- bradycardia, i.e. slowed heart rate
- nausea, vomiting
- flushing sensation

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LÄÄNE-TALLINNA KESKHAIGLA

OXYTOCIN

Patient information sheet

Women's Clinic in
West Tallinn Central Hospital

Pelgulinna Sünnitusmaja

www.synnitusmaja.ee

What is oxytocin?

Oxytocin is a hormone produced by the pituitary gland, and the medication oxytocin is a synthetic form of this hormone with the same structure.

The hormone was first discovered in 1909 and synthesized in 1954. Since then, it has been used in case of weakness of labor activity and to prevent bleeding in the postpartum period. Oxytocin binds to its receptors in the smooth muscles of the uterus to cause the uterus to contract rhythmically.

Today, oxytocin is widely used in clinical practice. Oxytocin is preferred over other uterine contraction-promoting substances because of its rapid effect. Also, oxytocin has minimal side effects, and it is suitable for most women.

When is oxytocin given?

According to the World Health Organization (WHO), the use of substances that promote the contraction of the uterus during the third stage of labor (i.e. the stage immediately after the birth of the baby when the placenta and fetal membranes come out of the uterus) is recommended for all women who have given birth, to prevent postpartum bleeding. Prophylactic administration of oxytocin shortens the duration of the third stage of labor and reduces the risk of postpartum bleeding by nearly 60 percent, thus also reduces the need for blood transfusion.

Postpartum bleeding – what is it?

Physiological blood loss, i.e. natural blood loss during vaginal delivery is up to 500 ml and after caesarean section up to 1000 ml. Postpartum bleeding is usually defined as blood loss of 500 ml or more within 24 hours of delivery. Postpartum bleeding occurs in about 5 percent of all women who have given birth. Blood loss in the third stage of the labor and postpartum periods depends on how quickly the placenta deattaches from the uterine wall and how well the uterus contracts to stop the bleeding from the deattachment site. Although this process is completely physiological and usually causes only moderate blood loss, there are some cases where the contraction of the uterus is weak and this leads to heavy postpartum bleeding.

Postpartum hemorrhage is one of the most common causes of maternal morbidity and mortality worldwide. Globally, nearly a quarter of all maternal deaths are related to postpartum hemorrhage. The most important action to reduce postpartum hemorrhage is to administer oxytocin within one minute after the baby's birth.

Advantages of oxytocin administration

- Reduces the risk of postpartum bleeding by nearly 60%.
- Shortens the duration of the third stage of labor (the delivery of the placenta).
- Reduces the need for a possible blood transfusion.
- Suitable for most women.
- Can be combined with other drugs that contract the uterus.

Methods of administration

Oxytocin is recommended to be administered within one minute after the birth of the child, i.e. as soon as possible, to ensure adequate contraction of the uterus during the third stage. The administration as soon as possible is necessary because after the baby is born, the oxytocin receptors in the uterine muscle begin to decrease rapidly.

Oxytocin can be administered either intramuscularly or intravenously.