Study sheds more light on use of oxytocin during labour

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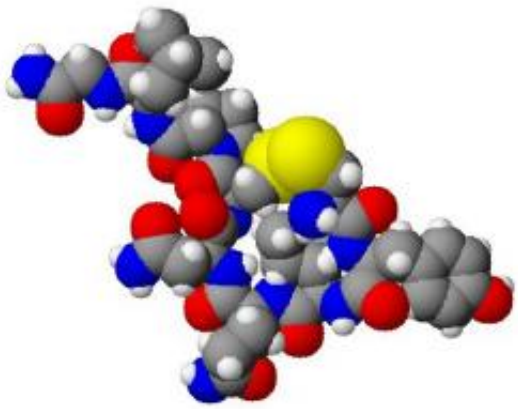

Spacefilling model of oxytocin. Created using ACD/ChemSketch 8.0, ACD/3D Viewer and The GIMP. Credit: Wikipedia.

A study published by *The BMJ* today sheds more light on the use of oxytocin (a hormone that stimulates contractions) during induced labour.

The findings show that stopping oxytocin in the later stages of induced labour may lead to a small increased risk of caesarean section, but a significantly reduced risk of potentially harmful complications, which the researchers say may be an important advantage in settings where monitoring resources are limited.

Around 1 in 4 labours are induced (started artificially) usually when a baby is overdue or there's a risk to the mother or baby's health.

During this process, oxytocin is often given to stimulate contractions. But if too much is given, contractions can become too frequent or last too long (a condition known as uterine hyperstimulation), which can reduce the flow of blood and oxygen to the baby, causing serious harm.

Previous trial evidence suggests that once a woman is in active labour (having strong, regular contractions), the labour process continues even if oxytocin is stopped and results in a lower risk of caesarean section.

But experts have questioned the quality of these studies, so it's still not clear whether discontinuing oxytocin stimulation is the best thing to do.

To investigate further, a team of UK, Dutch and Danish researchers studied 1,200 women stimulated with intravenous oxytocin during the early (latent) phase of induced labour at one hospital in the Netherlands and nine in Denmark between 8 April 2016 and 30 June 2020.

Women were randomly assigned to have their oxytocin stimulation discontinued or continued in the later (active) phase of labour and were monitored to see if they went on to have a caesarean section delivery.

Health and lifestyle characteristics, and medical history during pregnancy were similar in both groups.

A total of 607 women were assigned to discontinuation and 593 to continuation of oxytocin stimulation.

Discontinuation was associated with a slightly higher rate of caesarean section (101 out of 607 or 17%) compared with continuation (84 out of 593 or 14%), but this difference was not statistically significant.

Discontinuation was also associated with longer duration of labour (282 v 201 minutes), a reduced risk of uterine hyperstimulation (20 out of 546 or 4% v 70 out of 541 or 13%), and a reduced risk of fetal heart rate problems (153 out of 548 or 28% v 219 out of 537 or 41%).

Other outcomes for both mother and baby, including the women's birth experience, were similar for both groups.

The main limitation of the trial was the relatively high proportion of women who stopped the assigned treatment. However, the researchers point out that this is the largest truly double blind trial to date on discontinuation of oxytocin stimulation in the active phase of induced labour.

As such, they conclude: "In a setting where close monitoring of both mother and baby can be guaranteed, routine discontinuation of oxytocin stimulation may lead to a small increase in the rate of caesarean section, but the significantly reduced risk of uterine hyperstimulation and abnormal fetal heart rate may be an important advantage in settings where monitoring resources are limited."

More information: Continued versus discontinued oxytocin stimulation in the active phase of labour (CONDISOX): double blind randomised controlled trial, *BMJ* (2021). DOI: 10.1136/bmj.n716 , www.bmj.com/content/373/bmj.n716

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