

# DOES ULTRASOUND MONITORING AND OVULATION TRIGGER WITH HCG IMPROVE OUTCOMES OF INTRAUTERINE INSEMINATIONS (IUI) PERFORMED IN NATURAL CYCLES (NC)?



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## OBJECTIVE

To compare two methods of timing IUI in NC: spontaneous triggering of ovulation by detecting LH surge with daily urinary ovulation kits (u-LH) and ultrasound monitoring of follicular growth followed by ovulation trigger with hCG (US/hCG).

## STUDY DESIGN

Retrospective cohort study.

## MATERIAL AND METHODS

All women  $\leq 40$  years with no history of infertility who underwent donor sperm IUI (DS-IUI) in NC from January 2011 to June 2014 were included. The indications for DS-IUI were the absence of a male partner (single women and same-sex couples) and azoospermia. All women had ovarian reserve testing (FSH, antral follicle count, AMH) and at least one patent tube. None of the patients received any ovarian stimulation. Women in the u-LH group self-monitored ovulation at home using daily urinary ovulation kits starting cycle day 10, and IUI was performed the day following the LH surge. Women in the US/hCG group had serial US starting cycle day 10, and when a leading follicle  $\geq 17$  mm was noted, ovulation was triggered with recombinant hCG (Choriogonadotropin  $\alpha$ , 250  $\mu$ g) (Ovidrel, Serono) and IUI performed 36 hours later. The choice of protocol was left to the physician's discretion. Primary outcomes were live birth rate per started cycle (LBR) and cumulative LBR. Secondary outcomes were clinical pregnancy rate per started cycle (CPR) (fetal heartbeat at 7 weeks), cycle cancellation and miscarriage rates.

Table 1. Outcomes of DS-IUI cycles

	u-LH group (n=267)	US/hCG group (n=271)	p value
Cycle Cancellation rate	1.1% (3/267)	1.4% (4/271)	p= 0.71
CPR	16.1% (43/267)	11.8% (32/271)	p= 0.15
Miscarriage rate	22.7% (10/44)	21.8% (7/32)	p= 0.93
LBR	12.4% (33/267)	9.2% (25/271)	p= 0.24
Cumulative LBR	29.2% (33/113)	21% (25/119)	p= 0.15

X<sup>2</sup> tests were used to assess for differences between groups.

## RESULTS

538 DS-IUI in 232 women were included: 267 u-LH in 113 women and 271 US/hCG in 119 women. The two groups were comparable for age, body mass index, ovarian reserve and number/motility of inseminated sperm. There were no significant differences in the primary and secondary outcomes (table 1).

## SUPPORT

None.

## CONCLUSIONS

In women with no history of infertility undergoing donor sperm IUI in a natural cycle, US monitoring of follicular growth followed by ovulation trigger with hCG does not improve CPR and LBR when compared with u-LH monitoring. The latter has the advantage of being non-invasive and easy to perform at home and significantly reduces costs by limiting clinic visits. Therefore, u-LH monitoring might be the best option available to these women.