

# LEADING FOLLICLE SIZE IN MODIFIED NATURAL CYCLE IVF - PREDICTOR OF SUCCESSFUL OUTCOME?

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## INTRODUCTION

Modified natural-cycle IVF has recently received renewed attention. The biological advantages of natural-cycle IVF may provide a single oocyte of better quality and thus allow the transfer of a healthier embryo into a more receptive endometrial environment.

## OBJECTIVE

To determine whether a threshold size of the leading follicle in a modified natural cycle IVF protocol prior to triggering ovulation will impact clinical outcomes.

## DESIGN

Single-centre retrospective cohort study.

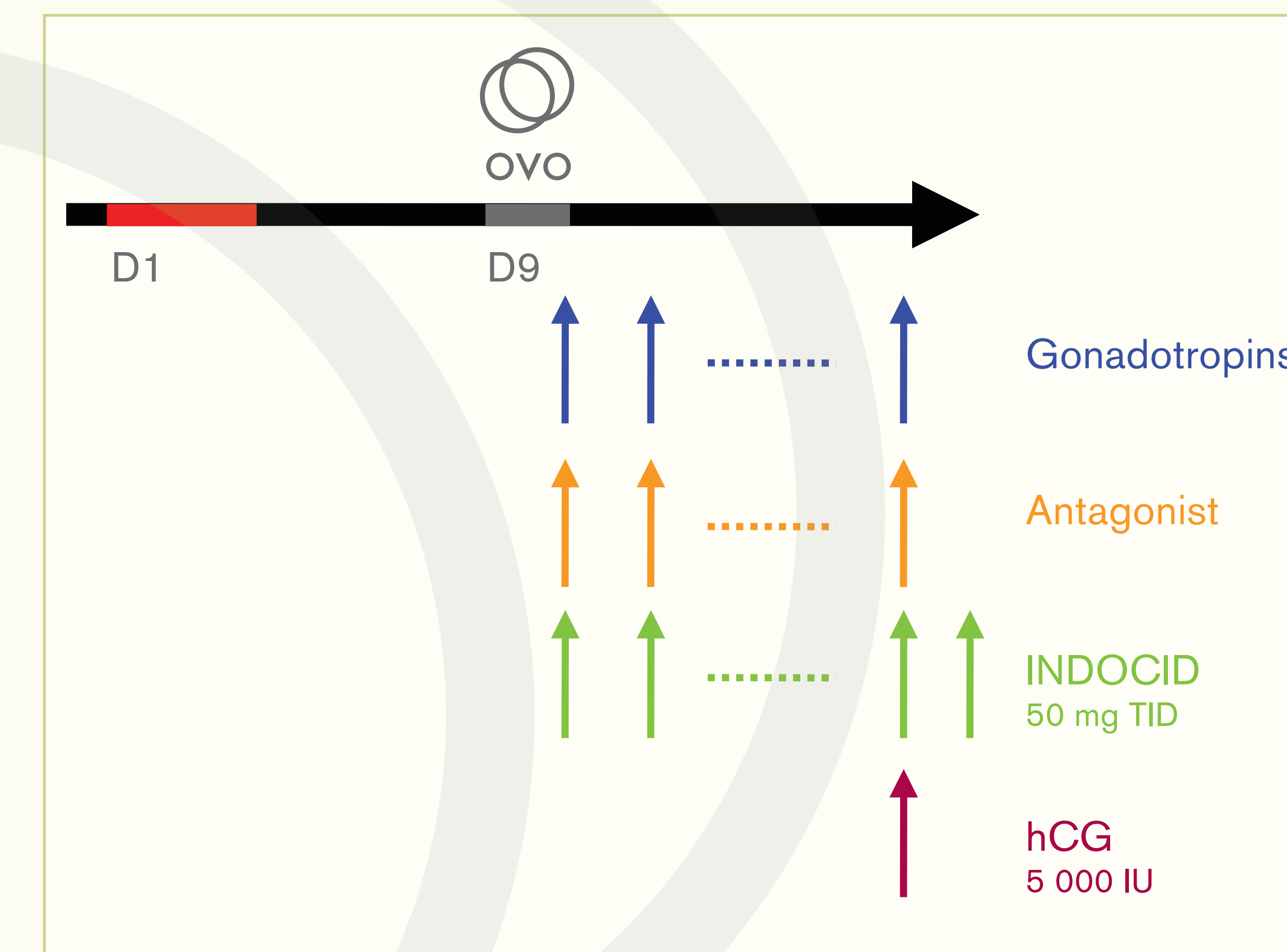
## MATERIALS AND METHODS

All modified natural cycle IVF leading to successful oocyte retrieval performed in our institution between July 2005 and December 2011 were included. Only first cycle attempts were included. In this protocol, patients are started on gonadotropin (Repronex 150 IU), antagonist (Orgalutran 0.25mg TID) and anti-inflammatory (Indocid 50mg TID) when the leading follicle reaches 15mm until the day of hCG trigger. Results were stratified according to leading follicle size (17mm, 18mm, 19mm, 20mm) on the day of hCG.

## RESULTS

A total of 624 patients underwent egg retrieval during the study period. Mean patient age was 32.5 years. Leading follicle size was 17mm in 25.6%, 18mm in 42.6%, 19mm in 19.7% and 20mm or greater in 12% of cases. Mean rate of successful egg retrieval was 90% in all cases. Clinical pregnancy rates were 32.6% (17mm), 30.4% (18mm), 44.1% (19mm) and 34.2% (20mm). Although there seems to be a trend towards bigger follicular size, there was no statistically significant difference in clinical pregnancy rates in the 4 groups compared.

### Modified natural cycle IVF protocol



### Results by follicle size

Parameters	≤18	≥19	p value
Number of follicles	426 (68.3)	198 (31.7)	
Successful egg retrieval	385 (90.4)	178 (89.9)	0.85
Number of cycles with fertilization (2PN)	257 (60.3)	123 (62.1)	0.84
Embryo transfers, n (%)	221 (51.9)	105 (53.0)	0.79
Biochemical pregnancy per cycle, (%)	18.5	23.7	0.30
Biochemical pregnancy per ET, (%)	35.3	43.9	0.13
Clinical pregnancies per cycle, (%)	16.4	21.7	0.24
Clinical pregnancies per ET, (%)	31.3	40.6	0.10

## CONCLUSIONS

Modified natural cycle IVF offers a minimally invasive approach in Assisted Reproductive Technology. One can be confident in inducing ovulation at 17mm up until 20mm in a modified natural cycle IVF protocol with equally successful clinical outcomes.

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