

# Natural cycle IVF: evaluation of 80 cycles

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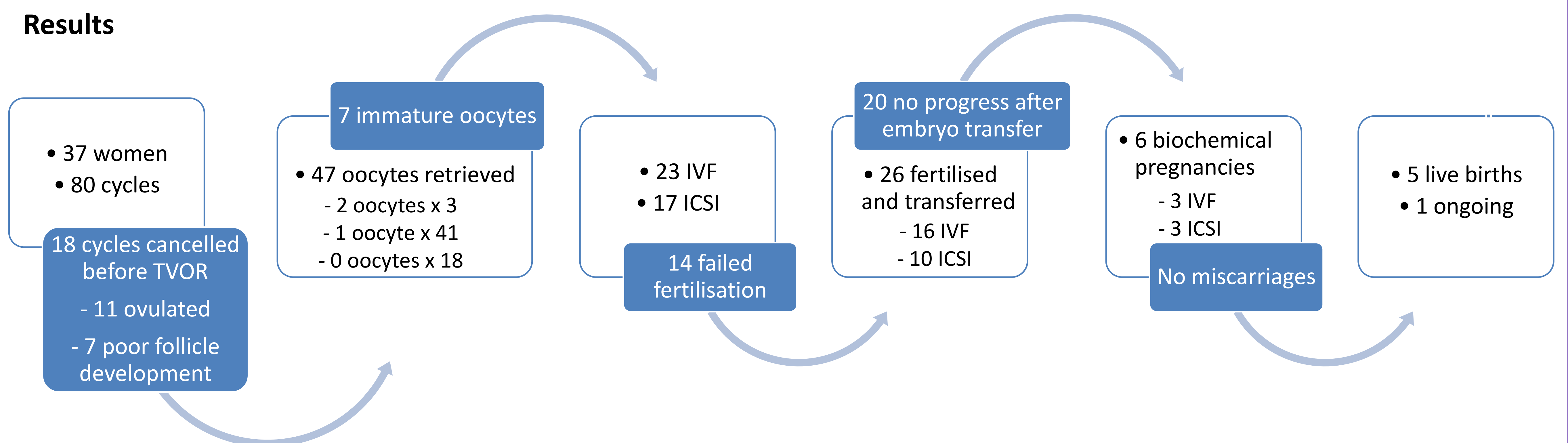
## Introduction and Objective

- Natural cycle IVF involves collecting and fertilising the single oocyte during a normal menstrual cycle without the use of any stimulatory medication.
- It is most suitable for women with poor ovarian reserve, cancer patients for whom fertility medication is contraindicated, women at risk of ovarian hyper-stimulation syndrome and women with personal or religious beliefs who do not wish to have surplus oocytes or embryos destroyed or stored.
- Several studies have shown that natural cycle IVF is superior to stimulated IVF with down regulation in the treatment of women with low ovarian reserve.
- The objective of this study is to evaluate the efficiency of natural cycle IVF for women with low ovarian reserve requesting assisted conception at Nurture Fertility in Nottingham, UK.

## Methods

- All the women/couples who underwent natural cycle IVF between January 2013 and September 2014 were included in this retrospective cohort study.
- Follicle monitoring began on day 5 of the menstrual cycle. Cetrotide was commenced once the lead follicle reached 15 mm and Pregnyl was administered when the follicle reached 17-18 mm with TVOR scheduled at 36 hours.
- The cycles were cancelled before TVOR if there was poor follicle development or if ovulation had occurred.
- The management following oocyte retrieval was identical to the standard IVF treatment.
- Demographic, biological and outcome data were collected and stored in Excel spreadsheets. Statistical analysis was performed using SPSS software.

## Results



## Characteristics of the included women

Age (years)*	Duration of infertility (years)*	Weight (Kg)**	BMI**	Antral follicle count (AFC)*	AMH (pmol/L)*	FSH (IU/L)*
41 [34 – 47]	3 [1 – 15]	62 ± 11	24 ± 4	6 [1 – 34]	2.4 [0.16 – 40]	11.6 [7 – 40]

\* Median [range] / \*\* Mean ± standard deviation

## Characteristics of the women with live birth or ongoing pregnancy

Age	Years of infertility	Standard IVF in the past	Ethnicity	Weight (Kg)	BMI	AFC	AMH	Lead follicle (mm)	Endometrium (mm)	TVOR day	Treatment	Embryo quality	Outcome
41	3	Failed	White British	61	20.3	5	3.06	17	9.3	15	IVF	8(2/3)	Live birth
42	4	Failed	Pakistani	70	25.2	9	3.9	16	7.6	10	IVF	10(2)	Live birth
38	1	Failed	White British	54	18	10	3.1	18	6.1	10	IVF	8(1)	Live birth
40	3	Success	White British	66	23	11	6.75	19	7.5	13	ICSI	4(1)	Live birth
37	2	Failed	White British	56	19	9	7.45	16	N/A	12	ICSI	4(1)	Live birth
41	2	Nil	White British	60	21	9	0.97	16	6.1	11	ICSI	4(2)	Ongoing

## Discussion

- Natural cycle IVF was used since the first days of assisted conception. In recent years, following the development of embryology/laboratory techniques, natural cycle IVF became more appealing to selected group of patients (low ovarian reserve, social/religious issues, financial considerations).
- The main downside of natural cycle IVF is the high cancellation rate, but this is partly compensated by the ability to run cycles back to back with reduced costs as no stimulation drugs are used.
- Improvement of follicle monitoring may increase the success rates as the cycles cancelled due to ovulation/LH surge may progress to live birth if the oocyte is retrieved.

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