RESEARCH RESULT OF FROZEN EMBRYO TRANSFER AFTER FAILED FRESH EMBRYO TRANSFER

Ho Sy Hung, Trinh Van Du

Ha Noi Medical University

INTRODUCTION


Evening News

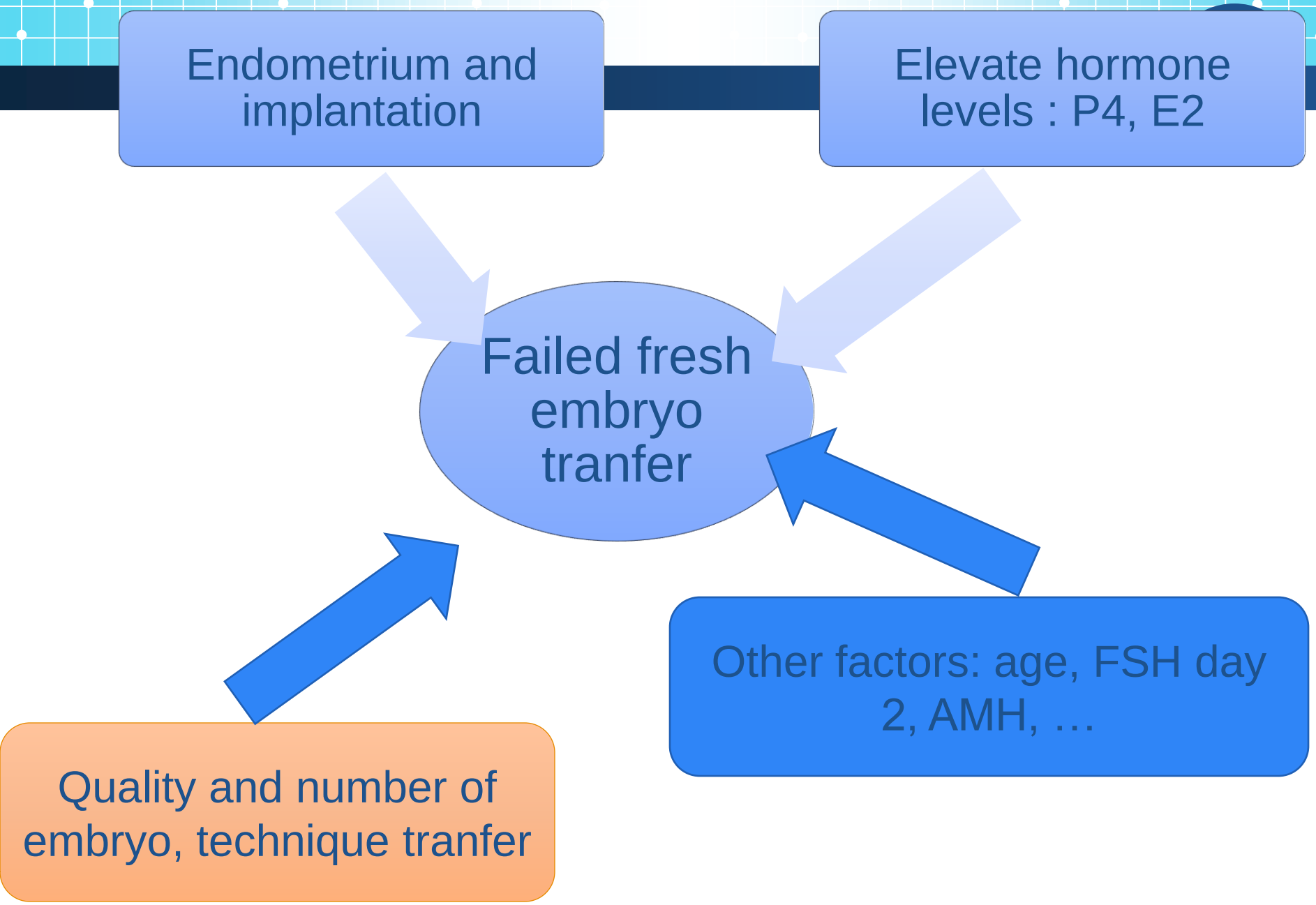
LATE SPECIAL

Meet Louise, the world's first test-tube arrival

SUPERBABE

Wide-eyed Louise Brown pictured in hospital 18 hours after she was born. Today she's doing well. See Page Three

25/7/1978- Louise Brown


Endometrium and implantation
Elevate hormone levels : P4, E2
Failed fresh embryo tranfer
Other factors: age, FSH day 2, AMH, …
Quality and number of embryo, technique tranfer

Research Questions?

- What is factor relate to failed fresh embryo transfer cycle?

- After failed fresh embryo transfer cycle, how long does first frozen embryo transfer?
- The success rate of first frozen embryo transfer after failed fresh cycle?

OBJECTIVES

1. **Characteristics of some factors involved in the failed fresh embryo transfer cycle.**

2. **Success rate of frozen embryo tranfer after failed fresh embryo transfer.**

Overview

Frozen-thawed becoming a trend in infertility treatment by in vitro fertilization:

- Reduce effects of hormones, endometrium in ovary stimulation cycle.
- Freeze all embryos helps to limit OHSS
- Reduce of number embryo transfer → reduce multiple pregnancies rate.
- Increase the cumulative pregnancy rate of one cycle
- Increase safety, reduce pregnancy complications.

Jemma Evans at al, 2014

Overview

2014-10-14

Fresh versus frozen embryo transfer: backing clinical decisions with scientific and clinical evidence

Jemma Evans[1,2,†], Natalie J. Hannan[1,3,†], Tracey A. Edgell[1], Beverley J. Vollenhoven[4,5,6], Peter J. Lutjen[5], Tiki Osianlis[4,5,6], Lois A. Salamonsen[1,6,*] and Luk J.F. Rombauts[4,5,6]

+ Author Affiliations

*Correspondence address. E-mail: lois.salamonsen@princehenrys.org

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Abstract

BACKGROUND Improvements in vitrification now make frozen embryo transfers (FETs) a viable alternative to fresh embryo transfer, with reports from observational studies and randomized controlled trials suggesting that: (i) the endometrium in stimulated cycles is not optimally prepared for implantation; (ii) pregnancy rates are increased following FET and (iii) perinatal outcomes are less affected after FET.

Hum. Reprod. Update (2014)

MATARIALS AND METHODS

- **Patien(s):** 140 patiens undergoing IVF using frozen embryo transfer 1st after failed fresh embryo transfer, from 1/2016 – 6/2016.
- **Design:** section study

- **Setting:** The Assisted Reproductive Technology Central, National Hospital of Obstetrics and Gynecology

Variable research

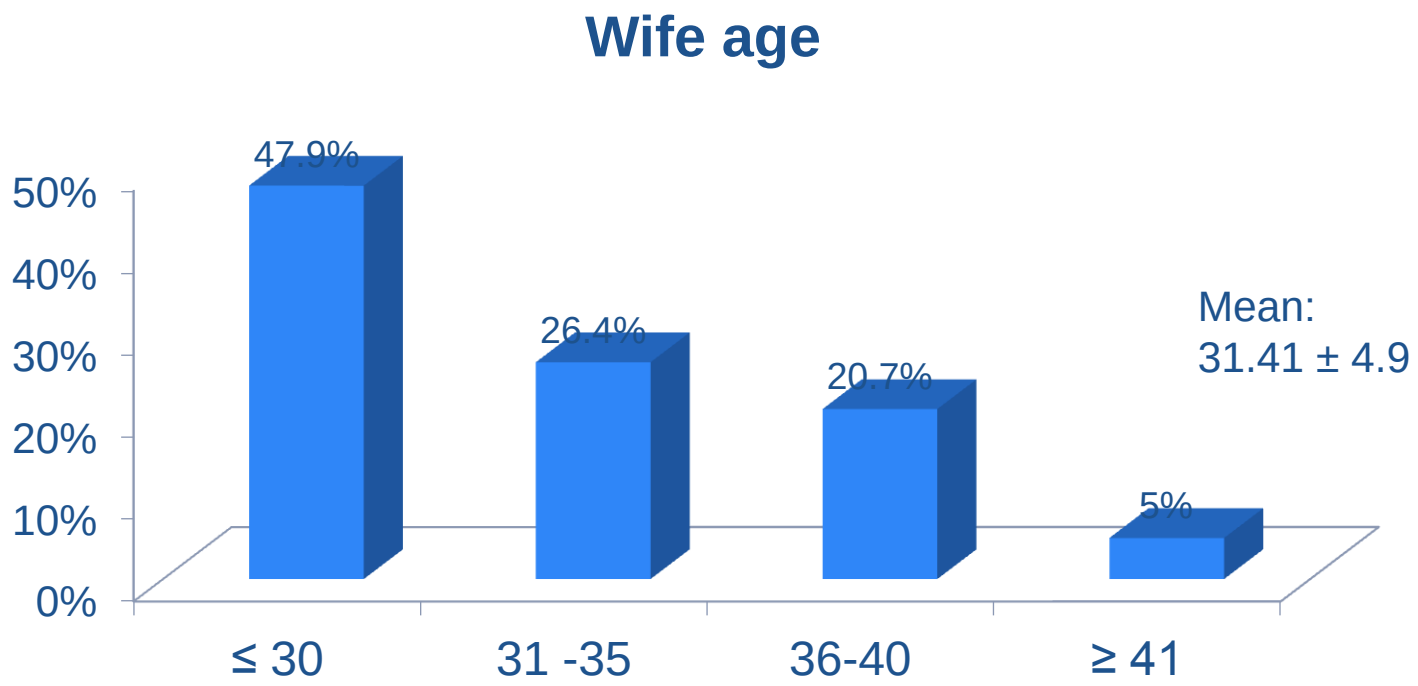
- **Characteristics of the research object:** Age, the length of time infertility, classification infertility, causes infertility.
- **Characteristics of some factors involved in the fresh cycle**: quality and number embryo transfer, endometrium, serum progesterone and estradiol levels day of hCG.
- **Result of frozen embryo transfer:** the length of time embryo frozen, endometrium, mean of number embryo tranfer, clinical pregnancy rate.

Statistical and data analysis

- Designed research data collection form.
- Data were analyzed statistically using the SPSS 16.0 (Microsoft Software, USA)
- Calculate rate and standard deviation (X ±SD)
- Comparison different rates by test χ^2.
- P < 0,05 linked differences statistically significant

RESULTS

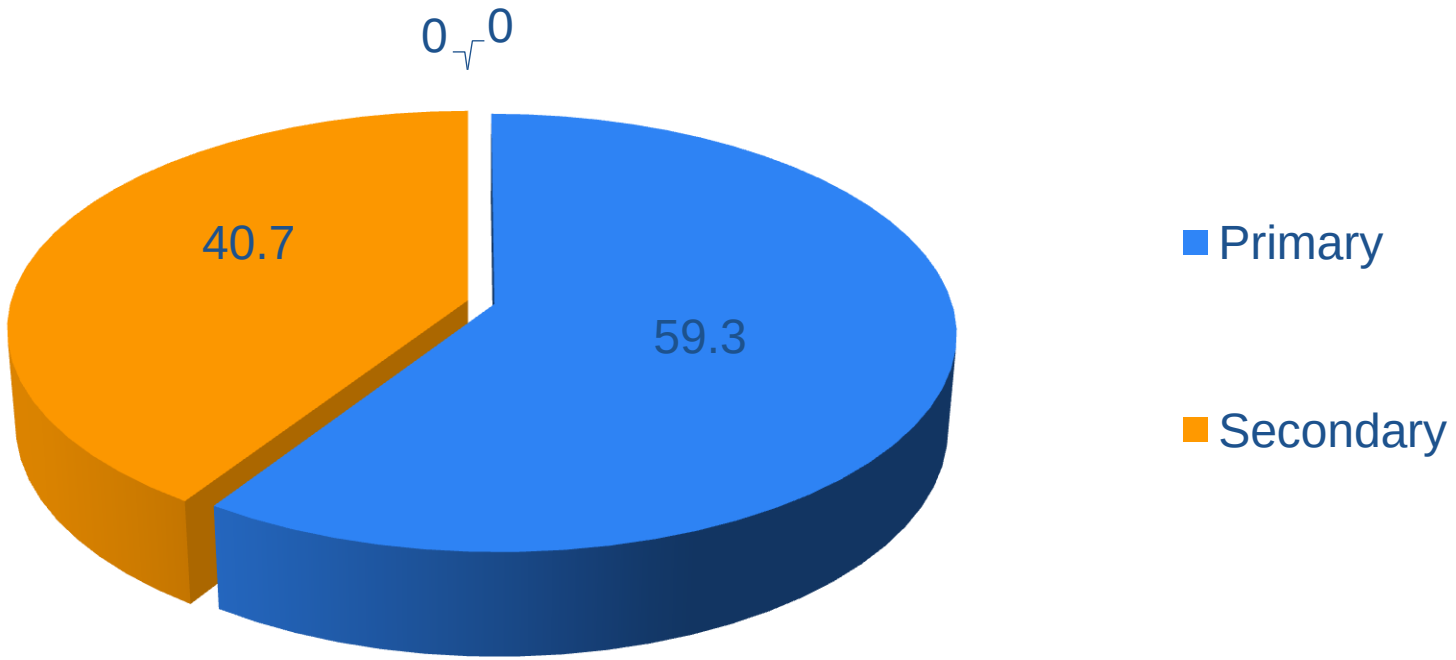
Classification of age groups



Dang Quang Vinh (2004) : 31,7 ± 3,9 Dao Lan Huong (2013) : 32,1 ± 4,9

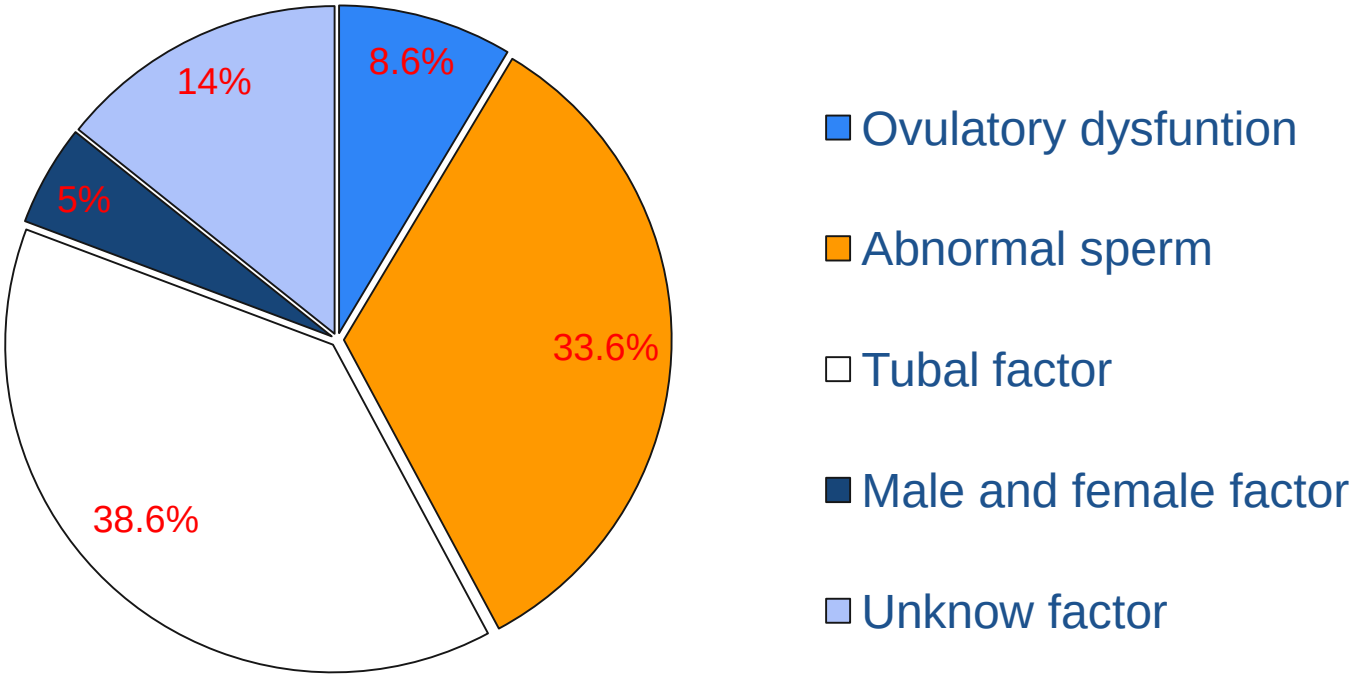
Characteristics of the research object

Classification of Infertility



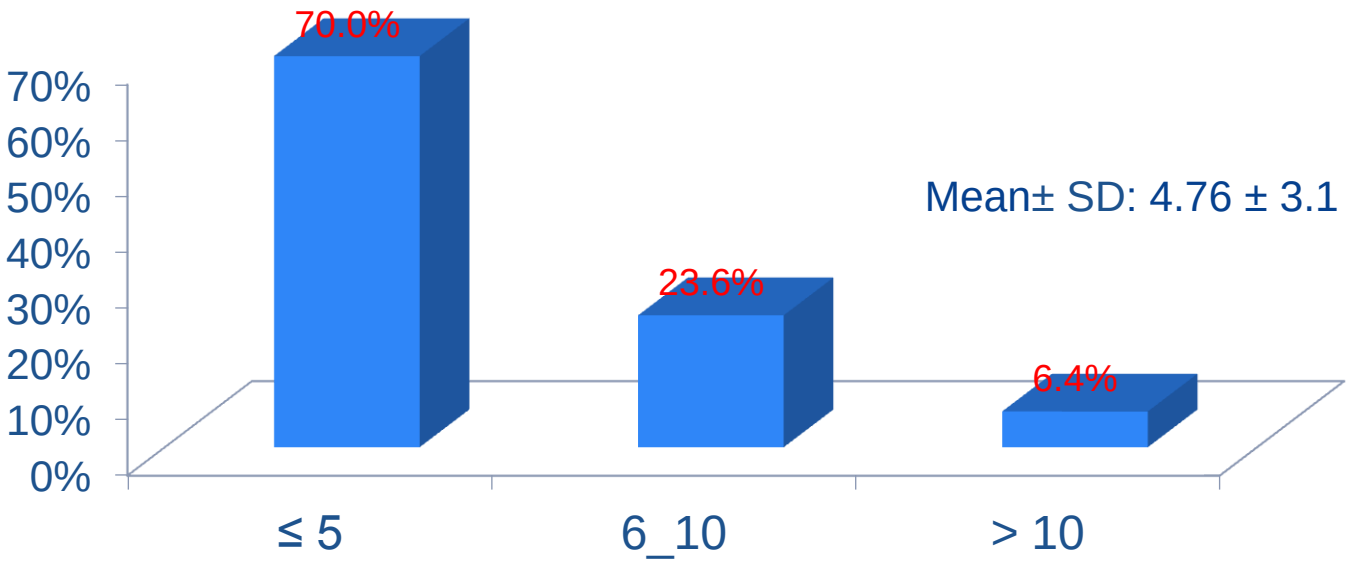
Characteristics of the research object

Causes of Infertility



Characteristics of the research object

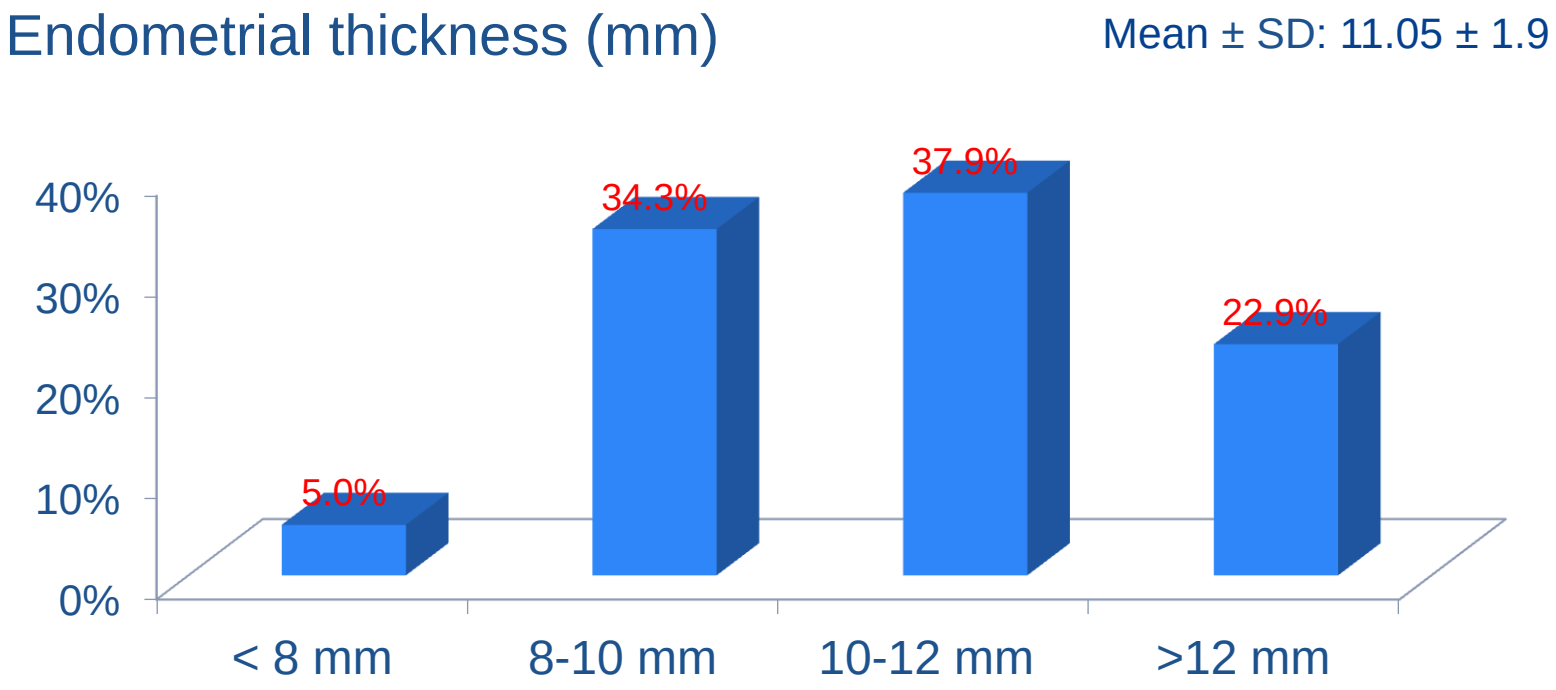
Duration of infertility (years)



Nguyen Thi Vy Phuong (2014) : 5.07 ± 0.5

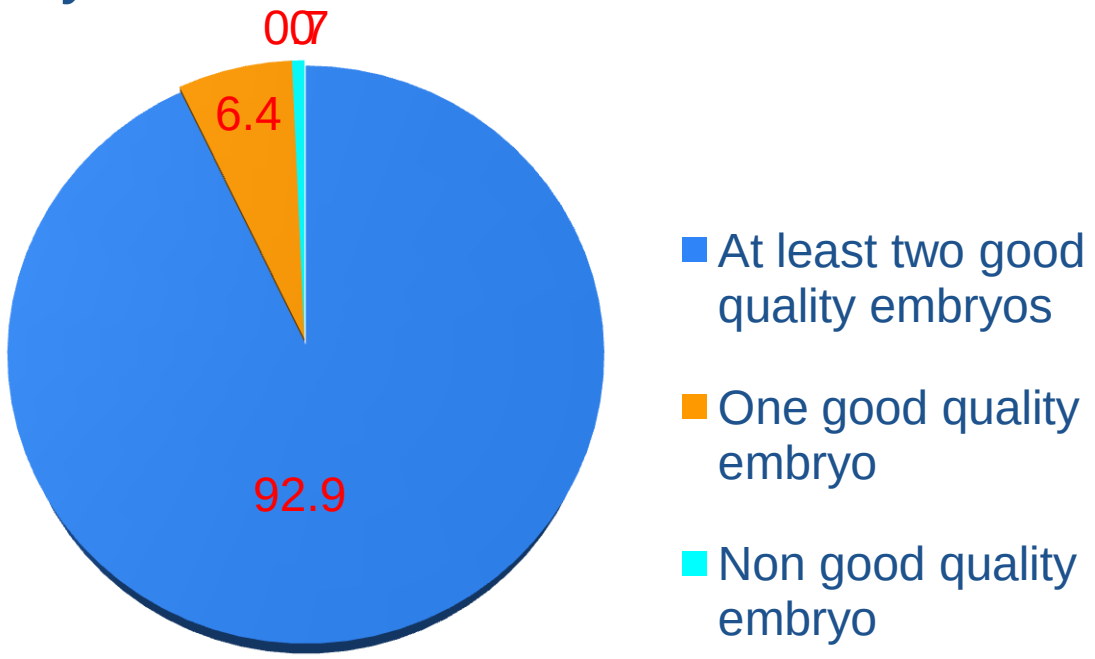
Fresh embryo transfer cycle

Endometrial thickness



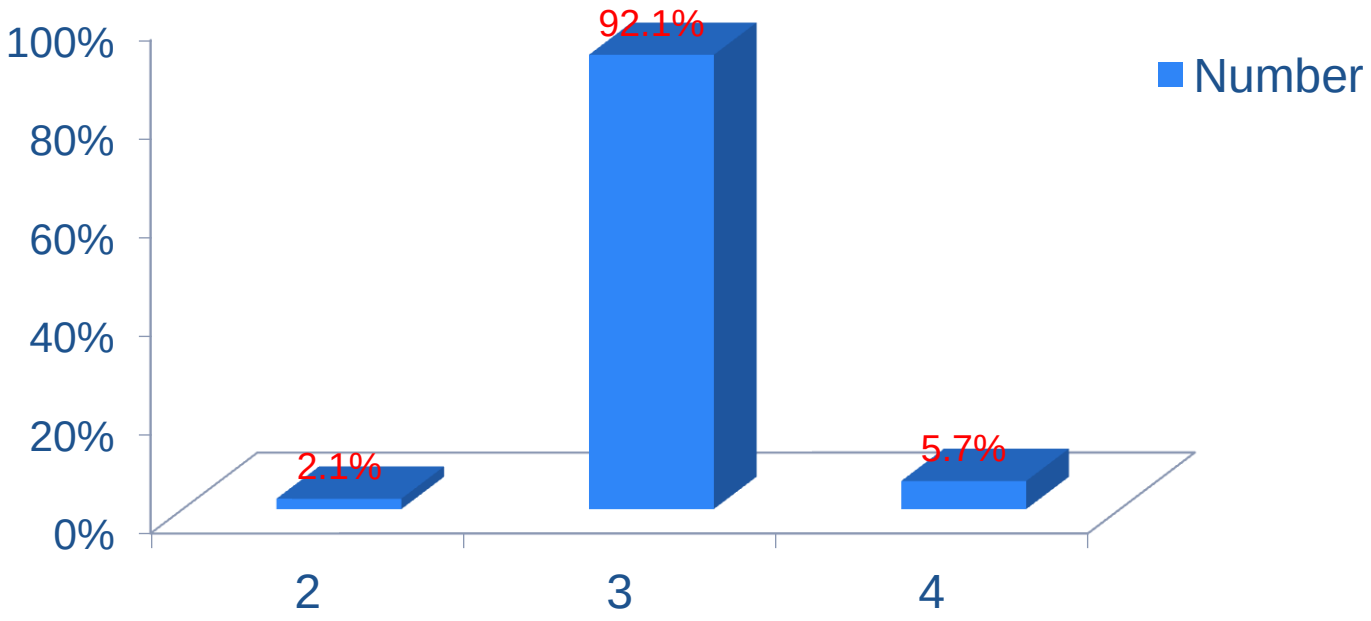
Fresh embryo transfer cycle

- Quality embryos



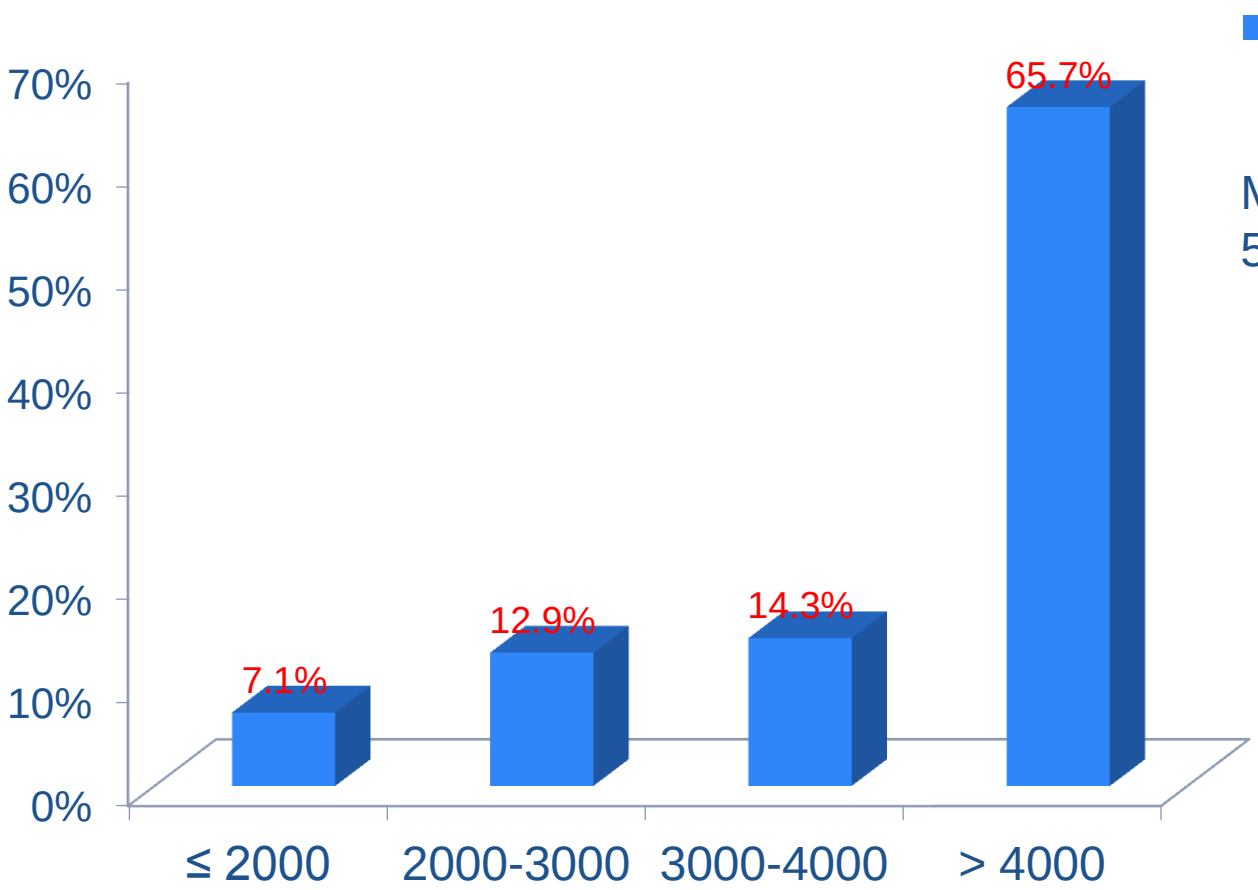
Fresh embryo transfer cycle

Number of embryo transfer



Fresh embryo transfer cycle

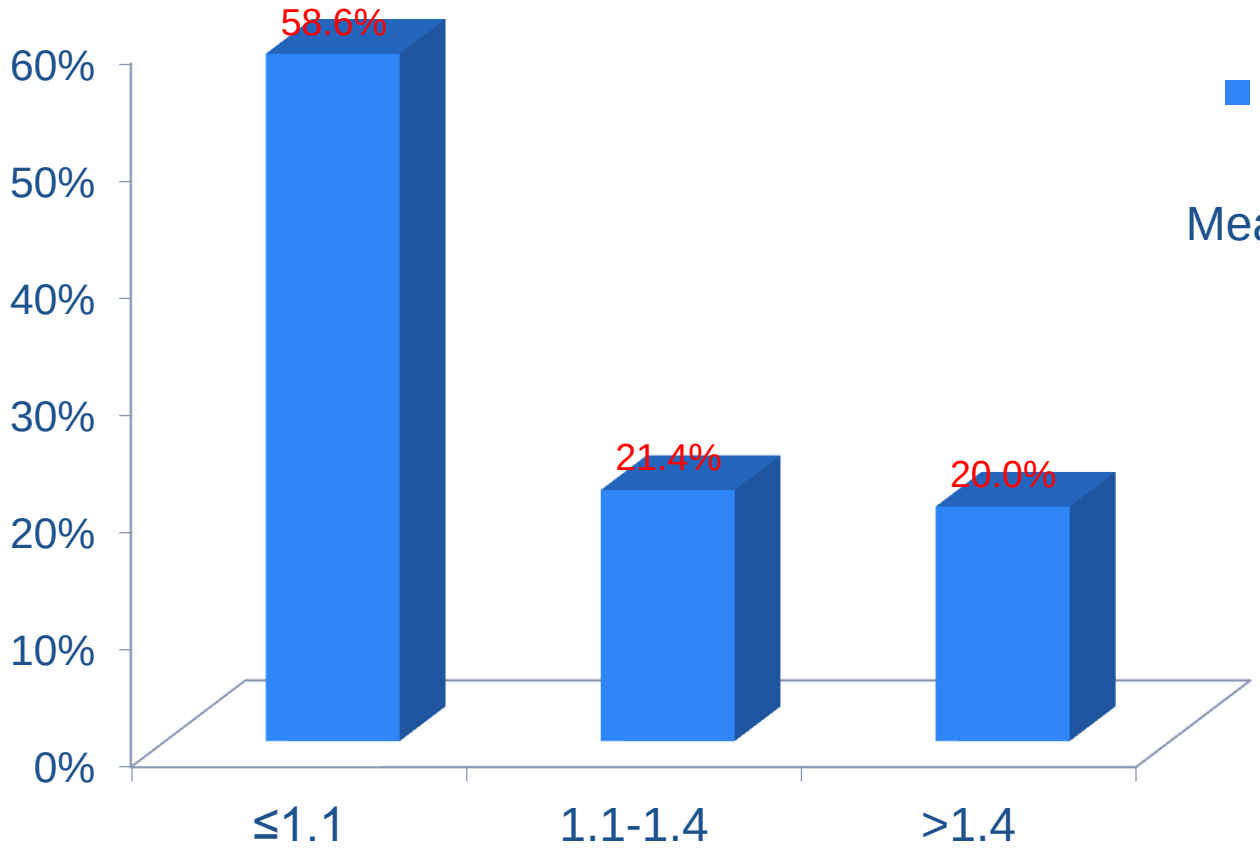
Serum estradiol levels on the day of hCG



Mean ± SD:
5418.6 ± 2643.3

Fresh embryo transfer cycle

Serum progesterone levels on the day of hCG



Mean (± SD):1.09 ± 0.4

- **Comparison of serum progesterone levels day of hCG in pregnancies group and non-pregnancies group**

P4 day of hCG	Pregnancy	Non-pregnancy	n(%)	p
≤ 1.1 ng/ml	35	47	82 (58.6%)	> 0.05
1.1-1.4 ng/ml	11	19	30 (21.4%)	
> 1.4 ng/ml	14	14	28 (20.0%)	
	60 (42.84%)	80 (57.16%)	140 (100%)	

- **Comparison of serum estradiol levels day of hCG in pregnancies group and non-pregnancies group**

E2 level day of hCG	Pregnancy	Non-pregnancy	Total (%)	p
< 3000 pg/ml	10	18	28 (19.98%)	< 0.05
3000 – 4000 pg/ml	9	11	20 (14.28%)	
> 4000 pg /ml	41	51	92 (65.74%)	
Total n (%)	60 (42.84%)	80 (57.16%)	140 (100%)	

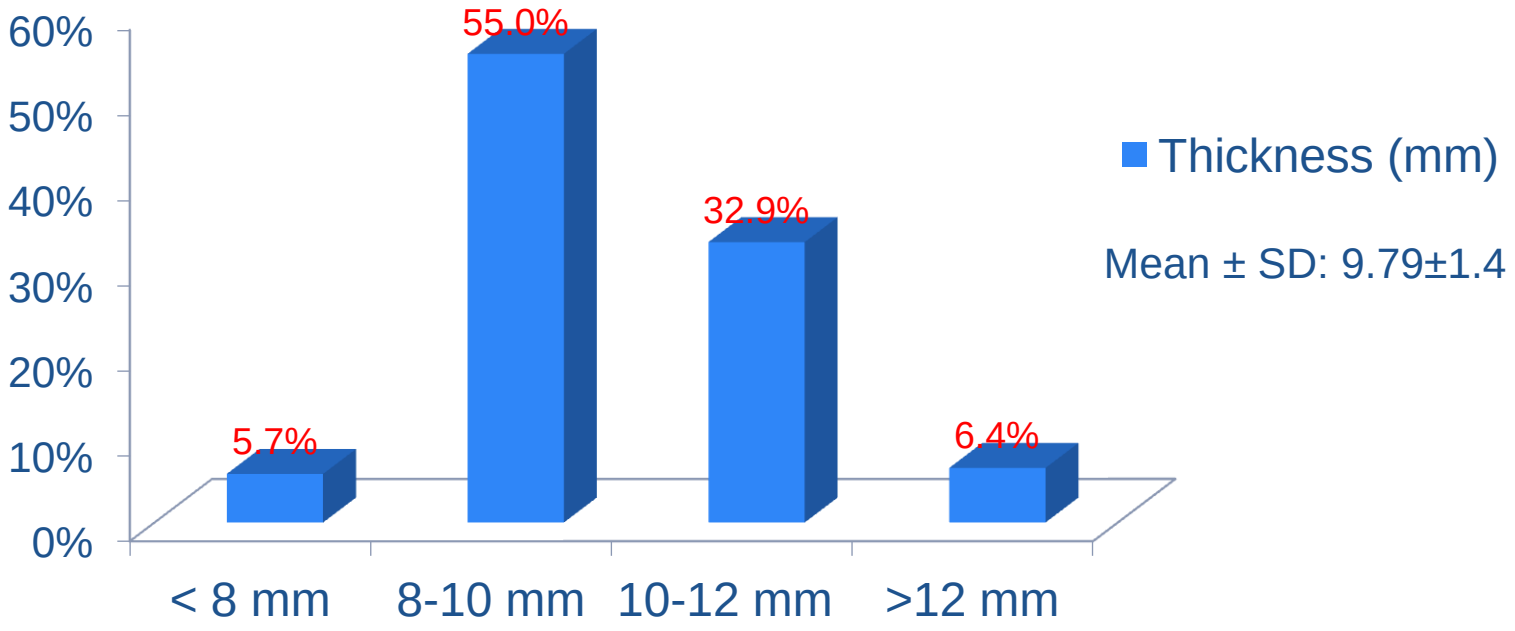
Frozen embryo transfer cycle

Endometrial preparation

Index	Values
Mean of days taked estrogen (± SD) (days)	14.96 ± 1.5
Mean of endometrium thickness (± SD) (mm)	9.79 ± 1.4

Frozen embryo transfer cycle

❖ Endometrium thickness



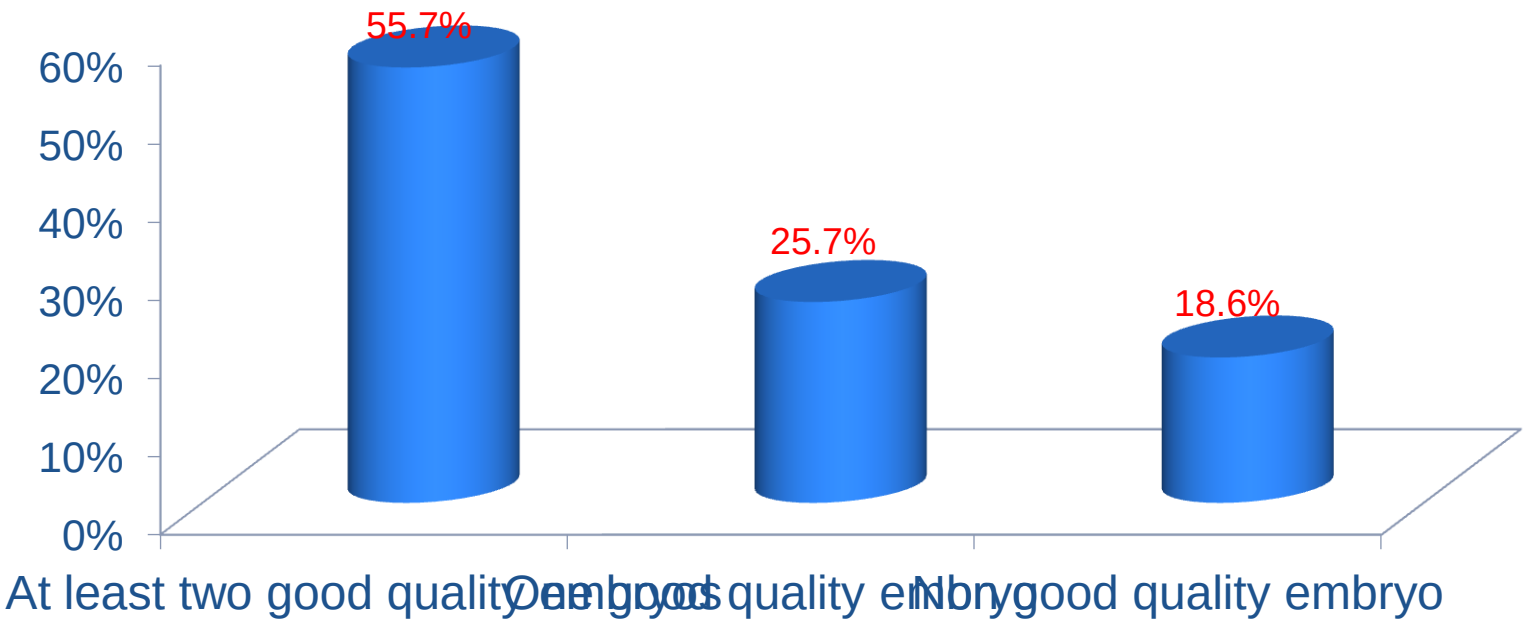
Frozen embryo transfer cycle

- Data on cryopreservation and thawed

Index	Values
Live embryos rate after thawing	92.78 %
Mean of number embryo transfer (± SD)	3.34 ± 0.9
Mean of the length of time embryo stored (± SD) (moths)	6.89 ± 3.8

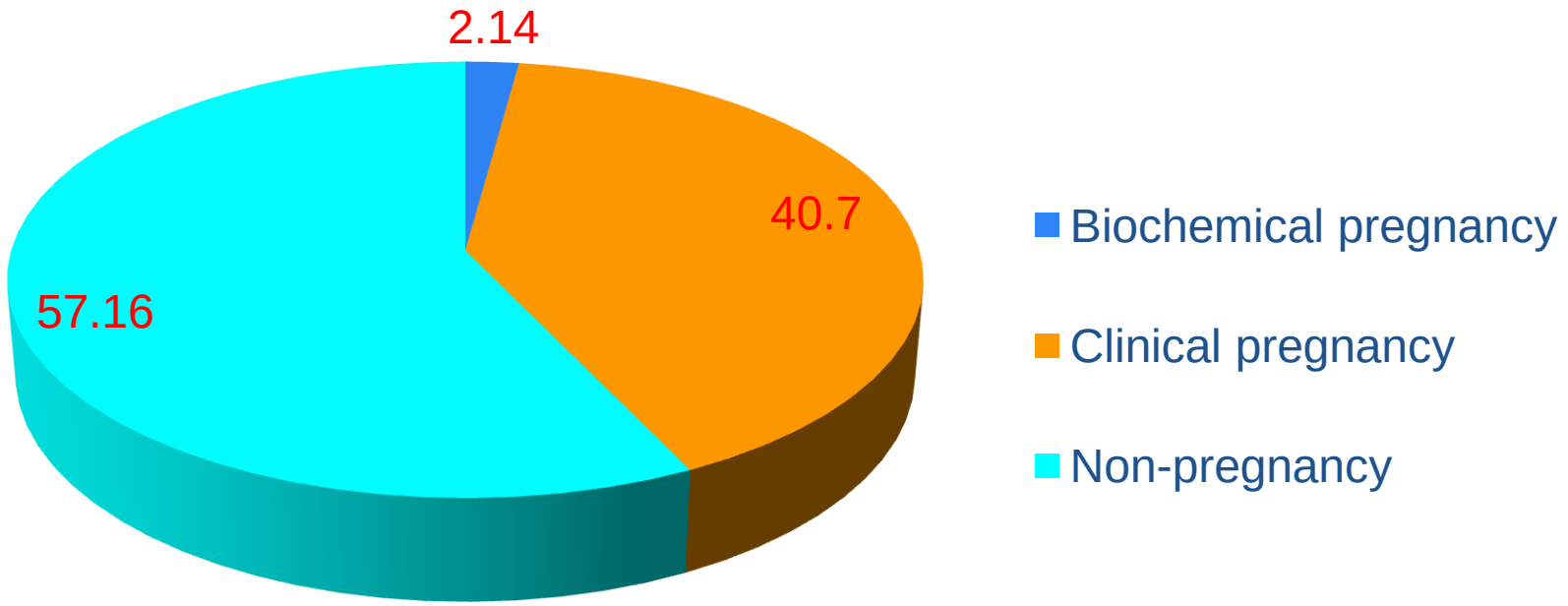
Frozen embryo transfer cycle

- Quality embryos



Frozen embryo transfer cycle

Success rate of frozen embryo transfer after failed fresh embryo transfer



Success rate of frozen embryo transfer after failed fresh embryo transfer

Authors	Year	Results
Zdravka Veleva	2013	24.9 %
Bo Huang	2014	43 %
L.F. Doherty	2014	45.4 %
Samuel.S.Ribeiro	2015	32.5 %
Our study	2016	42.8 %

Relation between the length of time embryos frozen and success rate of frozen embryo transfer

Embryos frozen	Pregnancy	Not pregnancy	n(%)	p
< 3 month	7	11	18 (10.85%)	> 0.05
3-6 month	19	29	48 (34.29%)	
>6 month	34	40	74 (52.86%)	
Total	60 (42.84%)	80 (57.16%)	140 (100%)	

CONCLUSIONS

1. Fresh embryo transfer cycle: elevate level E_2 and Pr, in which E_2 had effected with pregnancy rate.

- Average serum E_2 was 5418.6 ± 2643.3 pg/ml and average serum Pr was 1.09 ± 0.4 ng/ml.
- E2>2000 pg/ml was seen in 92.9 % cases.
- P4> 1.1 ng/ml was seen in 41.4 % patients.

2. The success rate of frozen embryo transfer was 42.84%, in which the clinical pregnancy rate reached 40.7%. The length of time embryo stored no effect to pregnancy rate.

Thank You For Listening !