

A Systematic Review of Comparing the Obstetrical and Peri-natal Outcomes between Fresh Embryo Transfer & Elective Frozen Embryo Ttransfer

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ABSTRACT

Background: The advance technology and advancement, improvement in vitro transfer have made easy for elective transfer of embryos which are done in invitro fertilization. Initially the strategy was to used fresh embryo and transfer it but now due to improvement in technology it has become easier to store the embryos for along period of time. **Objective of the study :** is to find out which effective way of embryo transfer .**Methods :** The metaanalysis of systemic Review was conducted. **Eligibility criteria:** The selection was done based on the intervention and client. **Conclusion:** Actually the is no clinical evidence that which type of transfer is better and have successful rate. But it is true from the syestamatic review that well equipped IVF lab and expert IVF team is very important .Due to which the success rate of transfer incereses. Such highly equipped IVF center are providing expensive IVF Treatment.

Key Words: Systematic Review, Obstetrical, Peri-natal, Outcomes, Fresh Embryo Transfer & Elective Frozen Embryo Ttransfer

Introduction

The advance technology and advancement, ² improvement in vitro transfer have made easy for elective transfer of embryos which are done in invitro fertilization. Initially the strategy was to

used fresh embryo and transfer it but now due to improvement in technology it has become easier to store the embryos for a long period of time.³ Also there is growing concern related fresh embryo transfer that when fresh embryo transfer is done there more risk for developing congenital malformation in babies than frozen embryo transfer. But very less studies are done in this are more studies needs to be conducted. Even when fresh or frozen embryo is transfer the rate of success depends on which day it was transfer, like there is mainly day 3, day 5 and very rarely day 6 transfer done after ovulation day. The reviews says that day 5 transfer rate is at higher side as blastocyst are transfer in the uterus. Usually during normal pregnancy the fertilization takes place at fallopian tube and then it gets implanted on uterine wall, but in IVF when blastocyst is transfer immediately the outer shell gets hatch off and it get implanted in the uterine cavity.

Objective of the study: is to find out which effective way of embryo transfer.

Methods

The metaanalysis of systemic Review was conducted.

Eligibility criteria:

The selection of studies was done based on the intervention and client outcome between both the types of client i.e. fresh embryo transfer and frozen embryo transfer.

Exclusion Criteria:

The studies was excluded which had twice publication and literature and their meta-analyses

Outcomes measure based on the components are: Age, Number of years after marriage, Primary infertility or Secondary infertility, any obstetrical problem, Medical disorder for women, both obstetrical + medical issue, Problem identified in men.

Findings:

Table I: Components consider during interventions

Components	Fresh Embryo Transfer	Elective Frozen Embryo Transfer
Age	It was observed in 8 studies that fresh embryo transfer was successful in the age group between 25 to 30 years.	Where as in 18 studies result reveals that elective frozen embryo transfer has 60% successful rate.
Number of years after marriage	It was observed couple after 5 to 6 years of marriage when no child is there they come for embryo transfer	It was observed couple after 5 to 6 years of marriage when no child is there they come for embryo transfer
Primary infertility or Secondary infertility	Maximum couple was having an history of primary infertility	In this both primary and secondary infertility client was seen
Any obstetrical problem	Maximum couple seen had no problem	In this 58% of women had obstetrical problem
Medical disorder for women	Maximum couple seen had no problem	Only 03% women had Medical disorder for women
Both obstetrical + medical issue	Maximum couple seen had no problem	17% women showed both obstetrical + medical issue
Problem identified in men	Maximum couple seen had no problem	23 % men had less semen count and issue of sperm motility

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there they come for embryo transfer. Maximum couple was having a history of primary infertility. In this both primary and secondary infertility client was seen. Maximum couple seen had no problem. In this 58% of women had obstetrical problem. Maximum couple seen had no medical problem whereas Only 03% women had Medical disorder for women in frozen embryo transfer also 17% women showed both obstetrical + medical issue in frozen embryo transfer and 23 % men had less semen count and issue of sperm motility.

Table 2: Outcome of elective frozen embryo transfer and fresh embryo transfer

Outcome	Fresh Embryo Transfer	Elective Frozen Embryo Transfer
Advance age group (more than 30 years of women)	It was observed that only 33% success rate was seen. It means 33% women got positive pregnancy result.	It was observed that only 52 % success rate was seen. it means 52% women got positive pregnancy result.
Type of IVF center and expert IVF team	It was observed that if the IVF expert team rate of transfer success is for fresh embryo than their IVF center fresh transfer success rate was high	It was observed that if the IVF expert team rate of transfer success is for frozen embryo than their IVF center frozen transfer success rate was high. Also this center was highly well equipped technology.

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Discussion:

Countless improvements has been done in safeguarding the embryos by cryo method and in different culture techniques which will result in embryo transfer success. The first pregnancy was positive by frozen embryo transfer in the year 1983. This technique was used in IVF lab. After these IVF FET was been accepted and had become the essential part of primary and secondary infertility. Because of this the awareness has increased among the eligible couple. The review was done which showed that frozen thawed embryo transfer had less risk of congenital malformation.

The success rate of embryo transfer actually depends on the IVF expert, team and the embryologist and IVF lab.⁴ the said things are very important from the success rate. Type of embryo transfer can be assumed that it depends on the women health status and antral follicle count. The follicle count and quality of ovum matters a lot. Because when ovum is retrieve from the ovaries i.e. known as ovum pickup⁶, this ovum quality is assessed. They are been graded in Grade A, B, C, D. A grade is most good type of embryo and C and D are of poor type. This grading help we to assume the success rate of transfer when all things are good. But most of the studies have not talked about this. I think all this factors also need to be discussed and paid attention while treating the client. Also there is growing concern related fresh embryo transfer that when fresh embryo transfer is done there more risk for developing congenital malformation in babies than frozen embryo transfer. But very less studies are done in this are more studies needs to be conducted. Also there issue of confidentiality which needs to maintain the sample or couples do not get easily ready to be part of a research these is also area where an IVF team can come together and motivate samples.

Major strength along with Limitation:

It was observed through the systematic review that meta-analysis has few limitations, one of the most significant is heterogeneity of the group and pregnancy outcomes. It tried to find out the causative factors for the heterogeneity led by performing the classification of groups into the subgroup category and analysis was carried out to examine. In addition the factors which was observed was the demographic data of the clients, habits like smoking, alcohol, lifestyles, which was associated with infertility type .

Conclusion:

Actually there is no clinical evidence that which type of transfer is better and have successful rate. But it is true from the systematic review that well equipped IVF lab and expert IVF team is very important. The said things are very important from the success rate. Type of embryo transfer can be assumed that it depends on the women health status and antral follicle count. The follicle count and quality of ovum matters a lot. Because when ovum is retrieve from the ovaries i.e. known as ovum pickup⁶, this ovum quality is assessed. They are been graded in Grade A, B, C, D. A grade is most good type of embryo and C and D are of poor type. This grading help we to assume the success rate of transfer when all things are good. But most of the studies have not talked about this. I think all this factors also need to be discussed and paid attention while treating the client. Due to which the success rate of transfer increses. Such highly equipped IVF center are providing expensive IVF Treatment.

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