

INTRODUCTION:

Blastocyst culture and transfer have emerged as important components in human IVF.

• While the culture of embryos to blastocyst stage for subsequent transfer yields high pregnancy rates and minimizes the risk of multiple gestations, the availability of blastocysts is limited in many IVF clinics because of the high rates of attrition in in-vitro embryo culture .

OBJECTIVE:

- In this study, patients were randomly selected and divided into 2 groups based on types of embryo culture method.

- All patients selected were strictly blastocyst transfer patients.

Group A- Drop culture

Group B-Drop culture + Group culture

- compared the results of both group(embryo formation rate, Blastocyst rate, Pregnancy rate)

A retrospective study performed on Total 205 Patients of age group 20-37years.

Group A

105 PATIENTS

DROP CULTURE: Each gamete were cultured in separate drop of 10µl from day 0 to Day 5 (Blastocyst)

Group B

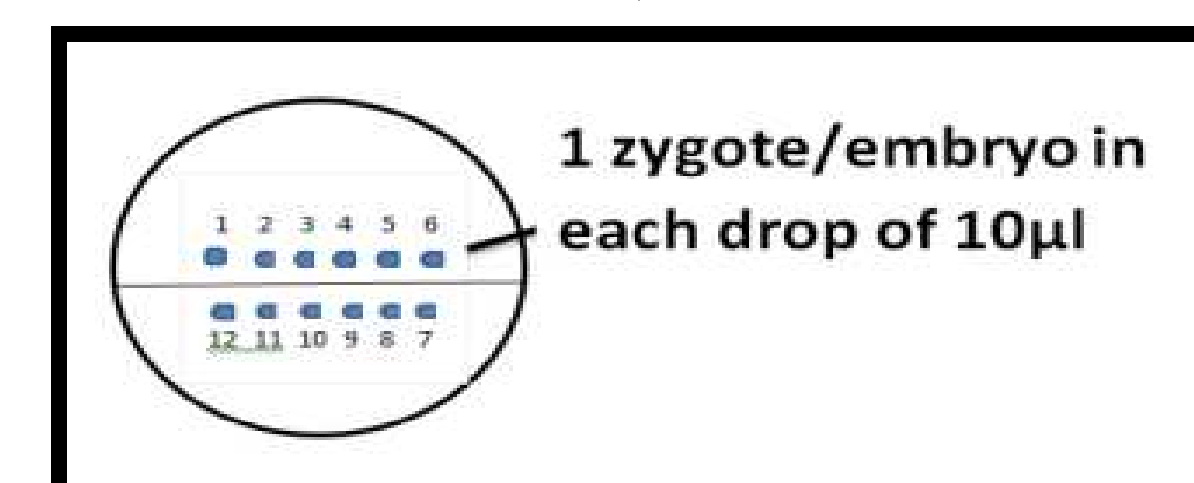
100 PATIENTS

DROP CULTURE + GROUP CULTURE: Each gamete was cultured in separate drop of 10µl from day 0 to DAY3 and shifted to group culture of 20µl drop from day3 to Day 5(Blastocyst)

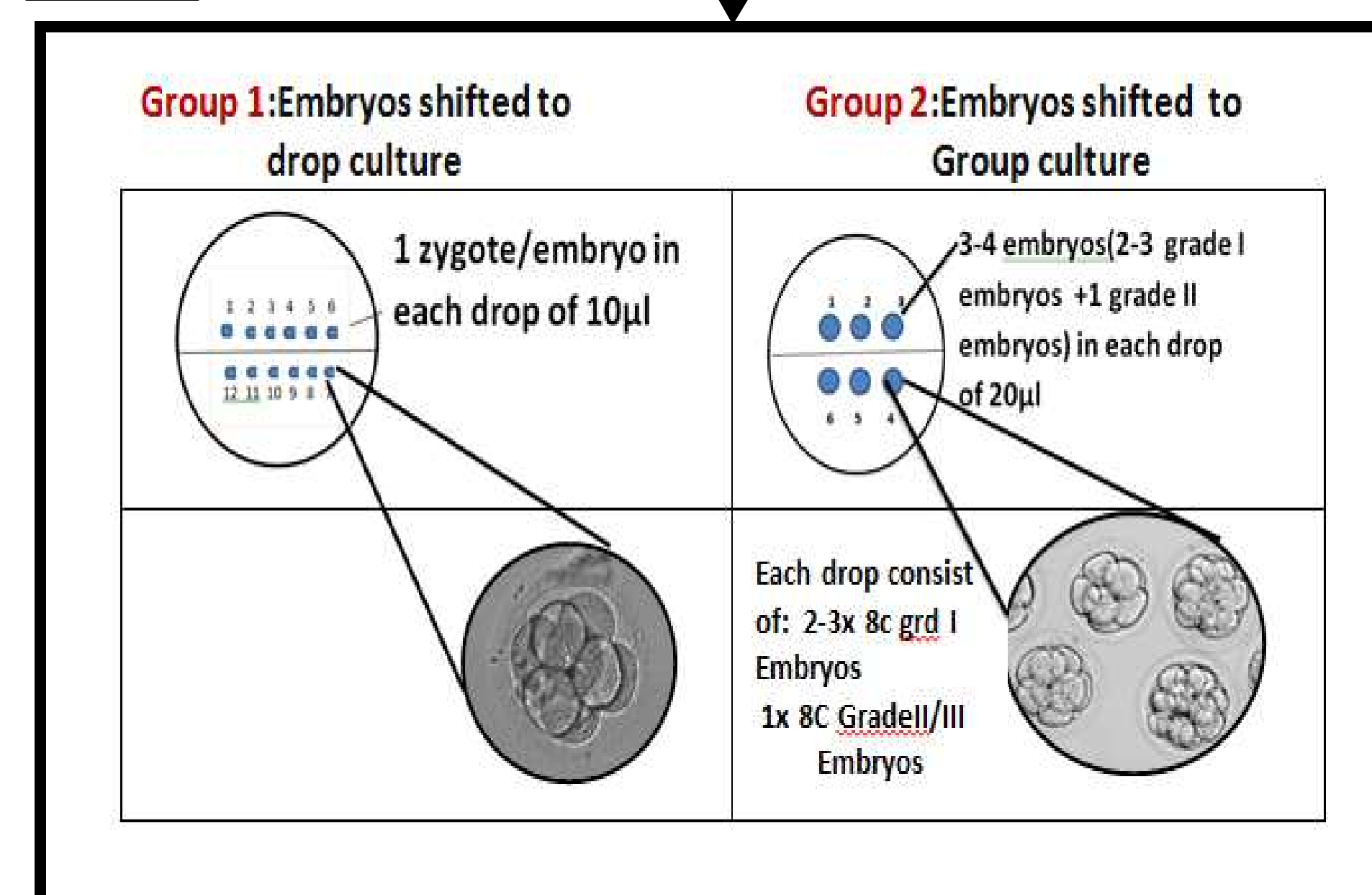
METHODOLOGY

Stimulation : Antagonist protocol followed by Ovum pick up and ICSI

Group A and Group B: each Injected oocytes were shifted to each drop of 10µl of culture dish



Day 3:

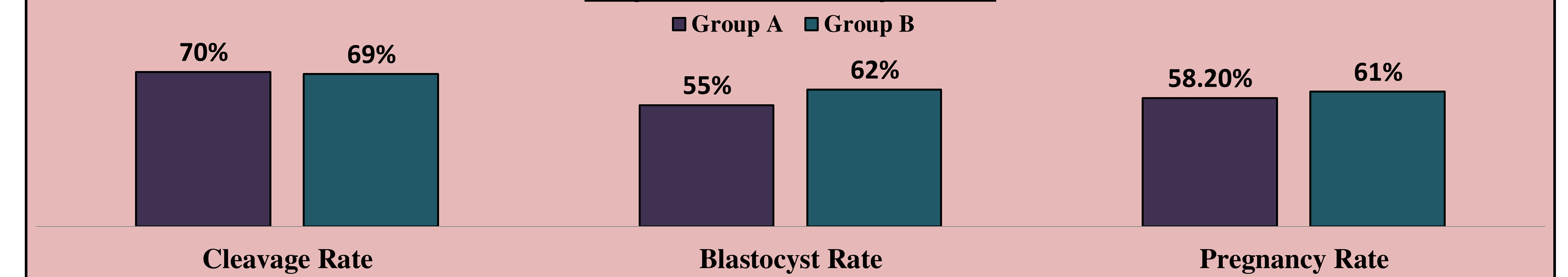


A Group and B Group : Blastocyst assessment and Blastocyst Transfer was performed .

RESULT

	Cleavage Rate	Blastocyst Rate	Pregnancy Rate
Group A	70%	55%	58.20%
Group B	69%	62%	61%

Drop culture vs Group culture



STATISTICAL ANALYSIS:

T-test for difference in Blastocyst rate has p-value as $< 2.2e-16$ indicating that there is a significant difference in groups A and B with Blastocyst rate of group B being significantly higher than that of group A.

CONCLUSION

- Group-cultured embryos produce autocrine embryotropins which help to promote their own development and serve as a communication tool.
- Preimplantation embryos are able to secrete autocrine factors in several ways, including active secretion, passive outflow, or as messengers bound to a molecular vehicle or transported within extracellular vesicles.
- Inter-embryo communication is mainly by growth factors, biochemical messengers including proteins, lipids, neurotransmitters, saccharides, and microRNAs, all of which can be exchanged among embryos cultured in a group. As result even an Average quality embryos can results in good quality Blastocyst.

TAKE HOME MESSAGE:

To maintain a good results in ART lab, we should culture embryos in group i.e (2 to3 – Grade I Embryos+1- Gradell Embryos) ,so that autocrine factors from Grade I Embryos will help Grade II Embryos to become good quality Blastocyst.

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