

8 difficult, 3 very difficult). The overall pregnancy rate was 32.6% (14 of 43 patients). Of these conceptions, 12 (86%) occurred in patients in whom the embryo transfer was easy, and 2 occurred in patients in whom the embryo transfer was moderately difficult. None of the patients in whom the embryo transfer was classified as difficult or very difficult achieved a pregnancy.

The pregnancy rate in those in whom the cervical dilatation resulted in a subsequently easy embryo transfer was significantly greater than in the group in which the embryo transfer remained difficult despite cervical dilatation (46.2% v 11.8%) ($p=0.03$).

Conclusions: Cervical dilatation carried out at the beginning of an IVF or FET treatment cycle results in a significant improvement in outcome with regard to both ease of embryo transfer and pregnancy rate, in patients whose previous IVF failure was associated with a difficult or failed embryo transfer.

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The Significance of Human Embryo Fragmentation on Pregnancy Rates in Assisted Reproductive Technologies (ART). S. Cuneo, A. Bermúdez, L. Díaz, J. J. Stern, J. R. Verez, A. J. Gutiérrez-Nájar. Grupo de Reproducción y Genética AGN y Asociados, Mexico City, D.F., Mexico.

Objectives: To analyze the effect of aging and ovulation induction protocols in developing embryo fragmentation and its influence in embryo cleavage, blastocyst development, pregnancy and implantation rates in ART procedures.

Design: Prospective, ongoing, comparative study.

Materials and Methods: From May 1st to December 31st, 75 cycles of ART: 28 IVF, 11 IVF-ICSI and 36 ICSI, with embryo transfer were studied, to evaluate the percentage of embryo surface affected with fragmentation, embryo cleavage rate and blastocyst development on the 2nd and 3rd day after fertilization. We compared the type of drugs used for controlled ovarian hyper stimulation (COH), age, pregnancy and implantation rates, between Group I (none fragmentation or <10% of embryo surface affected), Group II (mild, 10–30%), Group III (moderate, 40–50%) and Group IV (severe, >50%). Statistical analysis of the results was performed using χ^2 and ANOVA test, with significance when $p<0.05$.

Results: A total of 494 developed embryos were studied, and 93 of them were placed on sequential medium and culture to blastocyst stage. We did not observe any statistical differences between I, II and III groups in: fertilization rate, embryo cleavage, blastocyst development, pregnancy and implantation rates. However, the presence of severe fragmentation (group IV) was correlated with a none pregnancies and none blastocyst development. The relevant results were as follows:

	Group I (n=48)	Group II (n=12)	Group III (n=7)	Group IV (n=8)	<i>p</i>
Age (years & DS)	35.0 ± 4.92	29.9 ± 6.11	32.7 ± 5.18	33.8 ± 5.95	NS
Embryo cleavage (%)	85.7	93.3	95.8	100.0	NS
N° blastocyst	19	12	20	0	0.001
N° embryos arrested	20	3	5	14	0.001
Pregnancies & rates (%)	12 (25.0%)	4 (25.0%)	5 (71.3%)	0 (0.0%)	0.001

Conclusions: In our study, the degree of embryo fragmentation showed no correlation with age, drugs and COH protocols. Severe human embryo fragmentation decreased significantly pregnancy rates and blastocyst development in ART procedures.

ART: CRYOPRESERVATION

Tuesday, October 24, 2000

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Fertilization and Pregnancy Rates After Intracytoplasmic Sperm Injection Using Cryo-Thawed Ejaculated Semen and Surgically Retrieved Spermatozoa. A. K. Taha, I. Fahmy, R. T. Mansour, M. A. Aboulghad, G. Serour. The Egyptian IVF-ET Center, Maadi, Cairo, Egypt.

Objectives: Cryopreservation of spermatozoa is a routine practice in most centers dealing with assisted conception. The aim of this study is to compare the fertilization rates (FR) and pregnancy rates (PR) in intracytoplasmic

sperm injection (ICSI) using cryo-thawed spermatozoa from ejaculates of normal and abnormal semen, epididymal sperm, and testicular sperm from patients with obstructive and non-obstructive azoospermia.

Design: Retrospective review of 196 ICSI cycles using cryo-thawed spermatozoa from 1995 to 1999 at our center was performed.

Materials and methods: Patients were divided into four groups according to the source of sperm; ejaculated semen (ES) cryo-thawed epididymal sperm (EIPD), cryo-thawed testicular sperm from obstructive azoospermia TOB, and from non-obstructive azoospermia (TNOB). FR and PR were compared in 4 groups and with results of 2143, ICSI cycles using fresh spermatozoa during same period of time.

Results: The FR and PR are shown in the table. There was no statistical significant difference in the FR between fresh and cryo-thawed semen in all groups. The PR was lower in all the cryo-thawed groups as compared to fresh except in TNOB grouping which the PR was higher in the cryo group but it does not reach a significant difference.

Parameter	ES		EIPD		TOB		TNOB	
	F	C	F	C	F	C	F	C
Number	1486	112	150	20	269	40	238	24
FR %	54.03	54.8	56.5	57.5	53.9	54.5	46.0	50.7
PR %	29.54	22.3	37.3	35.0	35.3	20.0	22.3	33.3

Conclusion: The fertilizing ability of cryo-thawed spermatozoa is comparable to that of fresh samples irrespective to the source or quality of semen. There was even a trend for a better fertilization in the cryo-thawed group. However, the pregnancy rate is lower in all groups except for non-obstructive azoospermia.

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Effect of Spermatozoa Aneuploidy in Recurrent Intrauterine Insemination Failures. W. W. Lin¹, W. Chuang¹, D. J. Lamb^{1,2}, J. DeLara¹, F. J. Orejuela¹, L. I. Lipshultz¹. Department of Urology¹, Department of Molecular and Cellular Biology², Department Obstetrics and Gynecology³, Baylor College of Medicine, Houston, TX.

Objectives: Intrauterine insemination (IUI) for oligoasthenospermia has a pregnancy rate of only 33–18%¹, depending on whether or not ovarian stimulation is employed. The pathophysiology of this poor success rate is unclear. The objective of the current study is to determine whether there is a positive correlation between the rate of aneuploidy in ejaculated sperm of men whose female partners failed more than 3 cycles of inseminations.

Materials and Methods: Semen smears were obtained from the male partners of couples with male factor infertility who failed more than three cycles of IUI's. Semen smears from donors of proven fertility were obtained as controls. Three-color fluorescence in-situ hybridization (FISH) procedure was performed with probes to chromosome 18, X, and Y. The incidence of germ-cell nondisjunction was determined by the fluorescence pattern. 2000 cells per smear were scored.

Results: Semen smears from 10 couples with male factor infertility whose female partners failed more than 3 cycles of insemination were subjected to FISH analysis. 6 donor smears were analyzed as controls. The germ-cell nondisjunction rate was 2.3% for the IUI failure group and 0.65% for the control group respectively.

Conclusions: Germ-cell nondisjunction may be a significant contributing factor to recurrent IUI failures. FISH analysis may be an important screening tool before recommending IUI for couples with male factor infertility. If found to have a high rate of spermatozoa nondisjunction, couples should be counseled accordingly regarding the efficacy of IUI.

1. D. S. Guzick et al., Efficacy of Superovulation and Intrauterine Insemination in the Treatment of Infertility. *N Engl J Med* 1999;340:177–83.

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Improving Oocyte Cryopreservation: Osmotic Stress and Aquaporins in Human Oocytes. ¹M. S. Parisi, ²J. Notrica, ¹M. N. Parisi, ²E. Polak de Fried. ¹University of Buenos Aires, School of Medicine, Department of Physiology and ²CER Medical Institute, Department of Reproductive Medicine, Buenos Aires, Argentina.