

Control Group (N = 10):

	vol (cc)	conc (10 ⁶ /cc)	count (×10 ⁶)	% motile
<i>pre</i>	2.8 ± 0.3	22.8 ± 7.2	57.1 ± 14.3	49.4 ± 2.9
<i>post</i>	2.8 ± 0.4	26.5 ± 10.4	62.2 ± 27.5	53.2 ± 3.2
	% normal	% tapered	imGC (×10 ⁶)	
<i>pre</i>	10.1 ± 2.0	19.7 ± 2.2	0.8 ± 0.2	
<i>post</i>	10.5 ± 1.9	19.3 ± 2.2	0.3 ± 0.2	

Study Group (N = 8):

	vol (cc)	conc (10 ⁶ /cc)	count (×10 ⁶)	% motile
<i>pre</i>	2.7 ± 0.5	14.9 ± 7.0	42.0 ± 8.9	52.5 ± 4.1
<i>post</i>	3.9 ± 0.6	47.9 ± 14.2*	158.1 ± 33.0*	53.9 ± 3.3
	% normal	% tapered	imGC (×10 ⁶)	
<i>pre</i>	14.0 ± 2.8	21.4 ± 4.8	1.7 ± 0.5	
<i>post</i>	16.8 ± 3.1	16.8 ± 3.1	0.9 ± 0.2	

**p* < 0.05.

Conclusions: Nutritional evaluation and supplementation is an important adjunct in the overall evaluation and treatment of the subfertile male. The marked improvement in total count demonstrated after 3 months of nutritional supplementation for dietary deficiencies suggests that dietary factors significantly affect spermatogenesis.

P-041

Predictive Factors for the Outcome of Intrauterine Insemination (IUI). C. Keck, C. Gerber-Schäfer, M. Breckwoldt. Dept of OB/GYN, University of Freiburg, Germany.

Objective: To evaluate if conventional semen parameters predict the outcome of IUI treatment.

Design: Retrospective analysis of 414 IUI cycles, comparing semen parameters from IUI cycles in which a pregnancy was achieved with cycles in which no pregnancy was achieved.

Patients and methods: In this study the results of 414 consecutive IUI cycles which have been performed for 124 couples (3.3 cycles per couple; range: 1–6) were analyzed. Mean female age was 32.8 yrs (22–45), mean male age was 35.7 yrs (24–54). Mean duration of infertility was 22 months (10–144). For ovulation induction clomifen citrate was applied in 381 cycles, hMG was used in 24 cycles and 9 IUI were performed in spontaneous cycles. For sperm preparation the swim-up technique was used in 313 cycles whereas Percoll centrifugation was performed in 101 cycles.

Results: 35 pregnancies were achieved (8.4% per cycle; 28.2% per couple). 31 pregnancies occurred in the 1st to 4th treatment cycle (88%) whereas 4 pregnancies were achieved in the 5th or 6th cycle (12%). There were no significant differences between mean semen parameters

of patients for whom a pregnancy could be achieved and patients without pregnancy (*M* ± SEM): sperm concentration: 24.8 ± 7.3 mill/ml vs 22.5 ± 13.1 mill/ml); progressive motility: 39.5 ± 14.2% vs 41 ± 8.7%; normal sperm morphology: 21.6 ± 6.0% vs 23.4 ± 7.4%. After Percoll centrifugation sperm concentration was significantly higher compared with swim-up preparation (23.9 ± 11.6 mill/ml vs 10.4 ± 6.3 mill/ml) whereas progressive motility was higher after swim-up (88.3 ± 11% vs 56.4 ± 17.4%). Pregnancy rates in both groups were similar (9.3% vs 6.1%).

Conclusion: Even in the era of IVF/ICSI treatment, IUI may be considered for treatment of mild to moderate male factor infertility. As most of the pregnancies are achieved within 1–4 treatment cycles, not more than 4 cycles should be performed. On the basis of conventional semen parameters the outcome of IUI treatment can not be predicted accurately.

P-042

ICSI Using Cryo-Thawed Surgically Retrieved and Ejaculated Spermatozoa Versus Fresh Samples. A. Kamal, I. Fahmy, R. Mansour, M. Aboulghar, N. A. Tawab. The Egyptian IVF-ET Center, Maadi, Cairo, Egypt.

Objective: The minimal sperm requirement to achieve high fertilization rate (FR) and pregnancy rate (PR) with intracytoplasmic sperm injection opened the possibility of cryopreserving surgically retrieved spermatozoa for future use, specially when it is difficult to have fresh samples or to avoid a new surgical procedure. The objective of this study was to compare the results of ICSI using cryo-thawed spermatozoa (surgically retrieved and ejaculated) to the results when fresh spermatozoa were used.

Design: Retrospective analysis of ICSI outcome using cryo-thawed versus fresh spermatozoa in cases of obstructive azoospermia and severe oligospermia.

Materials and Methods: Group A: Cryo-thawed sperm from 34 patients were analysed including testicular sperm N=8; epididymal sperm N=4 from cases with obstructive azoospermia, and ejaculated sperm N=22 from cases with severe oligospermia. Group B: Fresh sperm from 221 patients, testicular N=85, epididymal N=40 from cases with obstructive azoospermia and ejaculated N=96 from cases with severe oligospermia. The FR, and PR were compared between the two groups.

Results: All patients had successful fertilization and reached embryo transfer stage. The FR and PR in group A were 56.3% and 33.3% respectively when surgically retrieved cryo-thawed spermatozoa were used and 59.1% and 22.7% when cryo-thawed ejaculated spermatozoa were used. In group B the FR, and PR were 55.8%, 31.2% when surgically retrieved fresh spermatozoa were used and 61.8% and 27.1% when fresh spermatozoa were used. There was no statistical significant difference between cryopreserved and fresh sperm in both groups.

Conclusions: The use of cryo-thawed spermatozoa whether surgically retrieved in obstructive azoospermia or ejaculated in cases of severe oligospermia for ICSI gives a comparable results to fresh samples and offers a valuable therapeutic option specially for azoospermia patients

sparing them from repeated surgical procedure for future ICSI cycles.

P-043

Maintenance of Human Sperm Motility and Prevention of Oxidative Damage Through Co-Culture Manipulation. ¹H. T. Chao, ²C. S. Chen, ²R. L. Pan, ³Y. H. Wei. ¹Department of Obstetrics and Gynecology, Veterans General Hospital-Taipei, Taipei, ²Department of Radiation Biology, National Tsing-Hua University, Hsinchu, ³Department of Biochemistry and Center for Cellular and Molecular Biology, National Yang-Ming University, Taipei, Taiwan 112, Republic of China.

Objective: In this study, we tried to assess the effects of the co-culture system on the motility characteristics of ejaculated human sperm and the possible mechanisms of improving sperm functions through the co-culture manipulation.

Design: We hypothesized that sperm functions can be maintained or improved by the co-culture system through the prevention of oxidative damage to sperm by reactive oxygen species. To test this hypothesis, we measured various functional parameters of sperm motility, the concentration of lipid peroxides in the culture medium and the accumulation of 8-hydroxy-2'-deoxyguanosine in spermatozoa during incubation with or without the co-culture of Vero cells.

Materials and Methods: Ejaculated human sperm from 35 healthy men were studied. The various functional parameters of sperm motility, the concentration of lipid peroxides in the culture medium and the accumulation of 8-hydroxy-2'-deoxyguanosine in spermatozoa during incubation were compared between two groups of sperm with or without the co-culture of Vero cells.

Results: Ejaculated human sperm co-cultured with Vero cells showed that sperm functions were maintained and the percentage of hyperactivated sperm in co-culture group was not affected. While the sperm of the control group completely lost the motility, the sperm co-cultured with Vero cells still maintained 74±25% of the original motility. Lipid peroxidation and accumulation of 8-hydroxy-2'-deoxyguanosine in spermatozoa were also reduced by the co-culture manipulation, which strongly indicates that intercellular interactions may play some roles in the maintenance of sperm functions.

Conclusions: We conclude that the generation of reactive oxygen species of the sperm can be reduced by the co-culture system and thereby protects sperm from oxidative damages.

P-044

Intracytoplasmic Sperm Injection Results As Evaluated by Multiple Outcome Assessment Is Not Influenced By Male Factors. B. M. Tripp, M. Lewitton, T. Hoekstra, M. Gvakharia, S. A. Carson, J. E. Buster, P. Casson, P. Cisneros, G. M. Grunert, R. Dunn, C. T. Valdes. Houston, Texas (Supported in part by the National Kidney Foundation of Canada).

Objective: Intracytoplasmic sperm injection (ICSI) offers therapeutic hope for couples with severe male factor infertility. Fertilization rates have been reported to be consistently high in most centers regardless of semen quality. The purpose of this study was to assess the effect of a variety of male factors on ICSI outcome of couples where the husband (>90% patients) has significant male factor infertility. These factors are: 1) total motile sperm count, 2) strict sperm morphology, 3) sperm penetrating ability, 4) sperm antibodies, 5) FSH, 6) male age, 7) seminal white blood cells.

Design: Retrospective study of all couples who underwent ICSI and semen testing by the Baylor College of Medicine Laboratory of Male Reproductive and Research Testing.

Materials and Methods: This is a study which was performed by chart review and database analysis of 375 couples who underwent 510 cycles of ICSI performed by the Baylor College of Medicine Laboratory of Male Reproductive and Research Testing in association with two reproductive endocrine centers (A,B) from January 1994 to July 1996.

Results:

ICSI Outcome Data	Cycles	2PN (2 Pronuclei) Rate (A, B)
Total motile sperm <2 million	118	635/1229, 52% (50%, 59%)
Total motile sperm >2 and <40 million	210	1094/1787, 61% (60%, 61%)
Total motile sperm >40 million	90	476/750, 63% (63%, 63%)
Sperm penetrating assay—Abnormal	47	315/511, 62% (60%, 63%)
Sperm penetrating assay—Normal	49	216/380, 57% (58%, 52%)
ITCSI Outcome Data	Pregnancies/ Transfer (A, B)	Embryo Grade > 2 (A, B)
Total motile sperm <2 million	29/105 (28%) (20%, 48%)	311/635 (49%) (45%, 55%)
Total motile sperm >2 and <40 million	61/203 (30%) (26%, 51%)	607/1094 (55%) (46%, 68%)
Total motile sperm >40 million	21/85 (25%) (24%, 38%)	236/476 (50%) (42%, 64%)
Sperm penetrating assay—Abnormal	18/44 (41%) (37%, 55%)	157/315 (50%) (47%, 56%)
Sperm penetrating assay—Normal	18/45 (40%) (30%, 46%)	119/216 (55%) (43%, 72%)

There were no statistically significant differences in the fertilization (2PN), pregnancy, and pregnancy loss rates and embryo grades for total motile count, sperm morphol-