

group of OA (SSR=97.9%; N=142/145) compared to NOA (SSR= 55.2%; N=95/172) (P<.001). Fertilization rates were significantly higher in OA (60.5%) compared to NOA (51.1%; P<0.01). The overall pregnancy rates, defined as the live birth rate (LBR) per transfer, were 38.2% (50/131) and 25.0% (22/88) in the groups of men with OA and NOA, respectively (P=.03). The chances of retrieving spermatozoa (odds ratio=43.0; 95% confidence interval 10.3-179.5) and of achieving a live birth by ICSI (odds ratio=1.86; 95% confidence interval 1.03-2.89) were significantly increased in couples whose male partner had obstructive rather than non-obstructive azoospermia.

CONCLUSION: The chances of finding sperm and of achieving a live birth by ICSI is increased 43.0 and 1.8-fold if the azoospermia is obstructive rather than nonobstructive, indicating that the reproductive potential of azoospermic men undergoing ART is clearly related to the type of azoospermia.

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EFFECT OF AGE ON APOPTOSIS-RELATED PROTEINS IN GERM CELLS OF HUMAN TESTES. R. Smith, J. Rivera, F. Jeria, K. Baeza, F. Gabler, H. Nicolai. Institute of Maternal and Child Research., School of Medicine, University of Chile, Santiago, Metropolitana, Chile; Department of Pathology, School of Medicine, University of Chile. San Borja-Arriarán Clinical Hospital, Santiago, Metropolitana, Chile; Department of Urology, School of Medicine, University of Chile. San Borja-Arriarán Clinical Hospital, Santiago, Metropolitana, Chile.

OBJECTIVE: Older men seem to produce more spermatozoa with damaged DNA. An impairment in the apoptotic pathway combined with the loss of free radical scavenging could trigger the age-related increase of damaged DNA in sperm. We evaluated the expression of apoptosis-related proteins in testicular tissue of older men and young azoospermic men with complete spermatogenesis. We further assessed the effect of ageing on the expression of the antioxidant enzyme superoxide dismutase (SOD).

DESIGN: Prospective comparative study.

MATERIALS AND METHODS: Testicular tissue (orchidectomy/testicular biopsies) was obtained from 17 patients (62.7 years) with advanced prostate cancer and from 16 patients (35.4 years) with obstructive azoospermia showing normal spermatogenesis (controls). Immunohistochemistry and Western blot were used for detection of cleaved caspases-9, -8, apoptosis-inducing factor (AIF), SOD1 and SOD2 in testicle. Cytochrome c was detected by Western blot.

RESULTS: Caspase-9 was mainly detected in early spermatids adjacent to the luminal surface. Activated caspase-8 was preferentially localized in the nuclei of primary spermatocytes and round spermatids. There were no significant changes (p>0.05) in the levels of caspase-9 and cytochrome c, whereas the expression of activated caspase-8 showed a significant decrease (p<0.05) in the aged group. AIF displayed a punctate, cytoplasmic staining pattern, suggesting mitochondrial localization. AIF content did not differ between controls and patients. SOD1 and SOD2 were strongly positive in germ and Sertoli cells in the aged group. Higher levels of SOD1 and SOD 2 were confirmed by RT-PCR and Western blot.

CONCLUSION: Male ageing is associated with a significant change caspase-8 expression, one of the major proteins involved in the death receptor apoptotic pathway. In patients, AIF could be related to its oxidoreductase activity. Up-regulation of SOD1 and SOD 2 in older men suggests an active cellular response against oxidative stress in testes.

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PGS IN PATIENTS WITH TESTICULAR MEIOTIC DISORDERS AND FISH ANALYSIS IN SPERM. M. Esbert, F. Vidal, L. Rodrigo, A. Pellicer, A. Ballesteros, G. Calderón. IVI-Barcelona, Barcelona, Spain; Universitat Autònoma de Barcelona, Bellaterra, Spain; IVI-Valencia, Valencia, Spain.

OBJECTIVE: Meiotic disorders can be directly diagnosed through the study of meiosis in testicular biopsies and indirectly with Fluorescence In Situ Hybridization (FISH) on sperm cells. The aim of this study was to compare the aneuploidy rate in embryos of males with meiotic disorders have been observed, whether FISH resulted normal or abnormal.

DESIGN: Prospective cohort study.

MATERIALS AND METHODS: The study included 30 patients whose evaluation of meiotic stages, chiasmata count and meiotic characterization resulted abnormal in classic meiotic preparations of processed unilateral testicular biopsy. Additionally, FISH on ejaculated sperm was used to analyse the incidence of diploidy and disomy for chromosomes 13, 18, 21, X and Y. Cou-

ples were enrolled in a PGS cycle treatment with abnormal meiosis as the only indication, being female age in both groups ≤38. Biopsy was performed on day 3 embryos, followed by FISH with 13, 15, 16, 18, 21, 22, X and Y probes.

RESULTS: Table 1 shows PGS results comparing patients with normal or abnormal FISH.

TABLE 1

	ABNORMAL FISH (17 patients)	NORMAL FISH (13 patients)	
No. of PGS cycles	21	17	
No. of embryo analyzed	103	60	
Abnormal embryos (%)	57 (55.3%)	34 (56.7%)	NS
Chr. 13 aneuploidies	9/102 (8.8%)	4/59 (6.8%)	NS
Chr. 15 aneuploidies	13/99 (13.4%)	6/56 (10.7%)	NS
Chr. 16 aneuploidies	14/101 (13.6%)	6/60 (10.0%)	NS
Chr. 18 aneuploidies	14/103 (13.6%)	3/58 (5.2%)	NS
Chr. 21 aneuploidies	14/106 (13.6%)	8/60 (13.3%)	NS
Chr. 22 aneuploidies	8/102 (7.8%)	7/60 (11.7%)	NS
Chr. XY aneuploidies	14/103 (13.6%)	1/59 (1.7%)	P=0.0109
No. of haploid embryos (%)	2/103 (1.9%)	4/60 (6.7%)	NS
No. of triploid embryos (%)	0/103	3/60 (5.0%)	P=0.0483

CONCLUSION: Males with testicular meiotic disorders have a high incidence of chromosomally abnormal embryos and PGS should be recommended independently on FISH results.

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SUCCESS OF PERCUTANEOUS SPERM RETRIEVAL AND INTRA-CYTOPLASMIC SPERM INJECTION (ICSI) IN OBSTRUCTIVE AZOOSPERMIC (OA) MEN ACCORDING TO THE CAUSE OF OBSTRUCTION. S. C. Esteves, S. Verza, Jr, C. Prudencio, B. Seoul. ANDRO-FERT - Andrology & Human Reproduction Clinic, Campinas, Sao Paulo, Brazil.

OBJECTIVE: Normal spermatogenesis is a common feature in men with OA, regardless of its cause. In this study, we analyzed the sperm retrieval rates (SRR) and the reproductive potential of men with obstructive azoospermia undergoing ICSI according to the cause of obstruction.

DESIGN: Retrospective.

MATERIALS AND METHODS: We studied 145 ICSI cycles performed in couples whose male partner had OA over a 6-year period. Cycles were divided according to the etiology of OA: congenital, vasectomy/failed reversal and miscellaneous. Group 3 included cases of post-infectious diseases, surgical procedures and trauma. Main outcomes were successful SR rates, as well as fertilization and pregnancy rates by ICSI. One-way ANOVA and Chi-square test used to compare SRR and ICSI outcomes among groups.

RESULTS: Overall SRR rates using PESA and/or TESA were 97.9. Motile spermatozoa was obtained in 73.1% of the cases after the first or second PESA, and TESA was carried out after failed PESA in about 29% of the cases. SRR rates and ICSI outcomes were not statistically different among groups.

	Congenital (N=32)	Vasectomy/Failed reversal (N=59)	Miscellaneous (N=54)
SRR using PESA; N (%)	21/32 (70.0)	37/59 (62.3)	44/54 (81.5)
Cumulative SRR using PESA + TESA; N (%)	32/32 (100.0)	56/59 (94.9)	54/54 (100.0)
Female Age in Years; Mean ± SD	31.0 ± 5.0	32.6 ± 6.2	32.9 ± 5.9
2PN Fertilization rate; Mean (%)	64.1	65.3	59.3
Top Quality Embryo for Transfer; Mean (%)	44.9	57.9	49.4
Number of Embryos Transferred; Mean	2.9	2.6	3.0
Clinical Pregnancy Rate per Transfer; N (%)	16/29 (55.2)	26/59 (44.0)	23/53 (43.4)
Miscarriage Rate; N (%)	5/16 (31.2)	7/26 (26.7)	3/23 (13.2)
Live Birth Rate per Transfer; N (%)	11/29 (37.8)	19/59 (32.2)	20/53 (37.7)

CONCLUSION: Percutaneous SR is highly successful in men with OA, regardless the cause of obstruction. Reproductive outcomes of ICSI using either epididymal or testicular spermatozoa retrieved from men with OA are not related to etiology of obstruction.