

general anesthesia. Pregnancy results are incomplete because many patients have been lost to follow up and cannot be located. To date 53% have reported a live delivery. Spousal age is an important predictive factor for pregnancy as is proven fatherhood prior to vasectomy reversal. Men who have had a vasectomy prior to ever having children are less likely to sire a child after VR.

Conclusion: Vasectomy reversal under local anesthesia is successful, cost-efficient, and low risk method of restoring fertility in men after vasectomy. Men who fathered a child prior to vasectomy have higher success rates after VR. We believe that the SQL, sever based database concept, design and structure should serve as a model for applying computation science in clinical andrology.

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Does caffeine intake impair semen quality and hormonal levels in a fertile population? Fabio F. Pasqualotto, Antonio M. Lucon, Bernardo P. Sobreiro, Jorge Hallak, Eleonora B. Pasqualotto, Sami Arap. Univ de São Paulo, São Paulo, Brazil.

Objective: The goal of this study was to assess number of cups (100 ml) of coffee intake per day and correlate with semen quality and hormonal levels in men undergoing vasectomy for sterilization purposes.

Design: Retrospective study.

Material and Methods: From January 1999 to September 2002, 750 vasectomies for voluntary sterilization purposes were performed. We divided our patients into four groups: does not drink coffee (n = 232), mild drinkers (1-3 cups/day; n = 156), moderate drinkers (4-6 cups/day; n = 198), and heavy drinkers (> 6 cups/day; n = 164). A manual hand count and Computer-assisted semen analysis was performed on all specimens, with a Motion Analysis VP 50 semen analyzer. In addition, hormonal levels were assessed. We evaluated sperm concentration, motility, motion parameters, and hormonal levels in these men. Data was evaluated with ANOVA.

Results: No differences were seen in sperm concentration (p = 0.293), motility (0.06), follicle-stimulating hormone (p = 0.962), luteinizing hormone (p = 0.138), and serum total testosterone (p = 0.313). However, sperm motility was higher in patients who drink coffee compared to patients who does not drink coffee (p = 0.04). Sperm motion characteristics did not differed across the groups: linear velocity (p = 0.095), linearity (p = 0.142), lateral head displacement (p = 0.616), beat cross frequency (p = 0.115), and curvilinear velocity (p = 0.675).

Conclusions: No significant differences were detected in sperm concentration, motility, sperm motion characteristics and hormonal levels in mild, moderate, heavy and non-smokers fertile patients. However, sperm motility was higher in patients who drink coffee compared to patients who does not drink coffee. Therefore, the use of compounds with an active principle based on caffeine may be stimulated for patients with astenozoospermia.

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Marijuana (MJ) impacts sperm function both in vivo and in vitro: Semen analyses from men smoking marijuana. L. J. Burkman, M. L. Bodziak, H. Schuel, D. Palaszewski, R. Gurunatha, Andrology Laboratory. SUNY at Buffalo, Buffalo, NY.

Objective: We have shown previously that marijuana may adversely affect fertilizing capacity by changing the endogenous cannabinoid regulatory system for sperm. THC (tetrahydrocannabinol) is the major psychoactive product in marijuana. Both THC and endogenous ligands have their effects through cannabinoid receptors, which are also found on human sperm. In vitro, cannabinoid ligands were found to inhibit human sperm binding to the zona, inhibit acrosomal changes and alter normal sperm hyperactivated (HA) swimming (Molec Reprod Devel 63: 376). Here, we present data on semen quality and sperm function from men who are smoking marijuana about 4 times per week.

Design: Semen samples were obtained from 22 men who had used marijuana (MJ) for an average of 5.1 years.

Materials and Methods: Sexual abstinence was at least 2 days. In addition to volume and morphology, semen was analyzed by CASA using an IVOS system: sperm count (COUNT), % motility (MOT), velocity (VCL), amplitude, and % HA. VCL and HA were assessed again after a swim-up (SU). Control values were taken from 59 fertile men.

Results:

The following data were obtained from each group (mean, sem, * significant difference by t-test).

	Volume	Count	Total#	MOT	MOR	VCL	HA	SU HA	SU VCL
MJ	1.2* (0.22)	89.6 (22.6)	131.3* (48.8)	58.7 (4.0)	6.0 (0.6)	98.1* (3.7)	7.47* (1.3)	14.2* (1.5)	130.1* (3.6)
Control	3.2 (0.3)	87.4 (10.1)	248.8 (38.3)	55.6 (2.3)	7.1 (0.6)	79.2 (2.1)	3.5 (0.5)	10.1 (1.7)	101.8 (4.2)

Mean THC level in the urine sample was 390 ng/ml ± 82. Semen volume (p < 0.001) and total sperm number (p = 0.04) are significantly reduced compared to controls. Morphology (strict) and % motility were not affected. Surprisingly, sperm velocity (p < 0.01) and %HA (p < 0.01) were abnormally high, both in the neat semen and after a wash with swim-up. Hyperactivation is required as the sperm approaches the egg. Premature, elevated HA may lead to early sperm burn-out, reducing fertilizing capacity. It is possible that semen from MJ smokers contains higher levels of reactive oxygen species, similar to infertile men, thus driving up HA and damaging the sperm membrane (Fertil Steril 59: 1291).

Conclusion: Marijuana smokers appear to have impaired fertility potential. Smoking men have reduced semen volume and total sperm number. Seminal sperm from MJ men express abnormally high hyperactivated motility which persists after a wash and swim-up. These sperm may burn out quickly and reduce fertility. We note that women smoking marijuana will have elevated THC throughout their reproductive tract, thus affecting sperm in the cervix, uterus and oviduct.

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Post-operative venous flow patterns by testicular color duplex doppler after microsurgical varicocele repair. Eric L. Kau, Sphetim Telegrafi, Andrew McCullough. New York Univ, New York, NY.

Objective: Many surgeons are utilizing testicular color duplex Doppler in the evaluation of male infertility. The presence of varicoceles in infertile men has been reported to be as high as 65% by ultrasound. Post-operative flow patterns have not been reported. We undertook a study to examine post-operative venous flow patterns in patients who underwent microsurgical varicocelectomies.

Design: A retrospective study using pre and post-varicocelectomy testicular color duplex Dopplers.

Materials and Methods: 81 patients underwent microsurgical varicocelectomies by a single surgeon. Pre and post-operatively, testicular Dopplers done by a single ultrasonographer were completed. For those with presentations of infertility, semen analyses were done pre and post-operatively as well.

Results: The average age of the 81 men was 34.9 years. One patient underwent a right-sided varicocelectomy, 27 underwent left-sided varicocelectomy, and 53 underwent bilateral varicocelectomies. A total of 134 varicoceles were repaired. In 19 patients, 16.4% (22/134) of the varicoceles showed a persistence of flow. Of those, 5 were noted in left-sided varicocele repairs, and the remaining 14 were seen after bilateral repairs (3 bilateral, 10 left-sided only, and 1 right-sided only). The left sided persistence of flow was 3 fold that of the right (13/53 vs. 4/53). The average time for post-operative Doppler was 6.3 months for left-sided varicocelectomies and 8.0 months for bilateral varicocelectomies. There was no significant difference in pre-operative peak venous diameter or peak valsalva flow velocities between those with and without persistence of venous flow (3.8 vs. 4.1 mm, 36 vs. 38 cm/sec).

Of the 19 patients with post-operative persistence of flow, 17 presented with complaints of infertility. Post-operatively, 3 men remained azoospermic and 2 men did not have follow-up semen analyses. 64.3% (9/14) of the men noted improvement in semen analysis parameters.

Conclusion: Persistence of flow after microsurgical varicocele repair occurs in 16.4% of repairs. Pre-operative venous diameter or peak venous flow velocities did not predict flow persistence. 64.3% of infertile men with flow persistence had improvement in their seminal parameters.