POSTERS

Basic Science

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P-001

Characterization of VIP and PACAP Receptors in Cultured Rat Penile Corpus Cavernosum Smooth Muscle Cells and their Interaction with Guanylate Cyclase-B Receptors

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Penile erection can be induced by both cAMP and cGMP, but possible interactions between these two signalling systems are still poorly understood. Using in vitro cultured rat penile corpus cavernosum smooth muscle (CCSM) cells, we have characterized the expression and activities of receptors for two cAMP- (PACAP, VIP) and cGMP- (CNP, ANP) elevating peptides. PACAP and VIP stimulated cellular cAMP production, apparently mediated by PAC1 and VPAC2 receptors as deduced from RT-PCR analyses. Generation of cGMP was activated only by CNP and nitric oxide (NO) donors, indicating the expression of CNP (GC-B) and NO (sGC) receptors. Strikingly, pre-exposure of cells to PACAP reduced GC-B but not sGC activity. These findings demonstrate three peptide receptors, PAC1, VPAC2 and GC-B, involved in cyclic nucleotide signalling, in penile CCSM cells. The observed cross-talk between PACAP/VIP receptors and GC-B (but not sGC) may have implications for the therapy of erectile dysfunction.

P-002

Angiotensin II: Distribution, Function and Effects of Angiotensin II Antagonists on Human Corpus Cavernosum

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Introduction and Objectives Penile erection occurs due to a balance between contractile and relaxation mechanisms in the corpus cavernosum. There is evidence that, as in peripheral blood vessels, angiotensin II is one of the contractile factors present in the corpus cavernosum. The aims of the present study were to 1) identify angiotensin II receptors in human corpus cavernosum and 2) assess the functional effects of angiotensin II on human corpus cavernosal tissue and assess the effects of AT₁ and AT₂ receptor blockers.

Materials and Methods Tissue from 11 transgender (mean age 42; range 26–72) and 4 erectile dysfunction patients (mean age 59; range 27–62) were examined. Angiotensin II receptors were studied using immunohistochemical techniques. Organ bath work was used to examine the effects of angiotensin II on human penile tissue.

Results Angiotensin II receptors were shown to be present in human corpus cavernosal tissue. It was shown that the majority of these receptors were the AT₁ subtype. Angiotensin II was shown to contract corpus cavernosal tissue in a dose-dependant manner. This contraction was significantly reduced ($p < 0.0001$) following the addition of losartan (an AT₁ receptor antagonist).

Conclusion This study has shown that angiotensin II receptors are present in human corpus cavernosal tissue and that the majority of these receptors are AT₁ subtype. Angiotensin II is a contractor of human corpus cavernosal tissue and that blocking of angiotensin II receptors, in particular the AT₁ receptor may be of benefit in hypertensive patients with ED.

P-003

Chloride Current in Myocytes from Corpus Cavernosum *K. Thornbury, United Kingdom; M. Craven, M. A. Hollywood, N. G. McHale, K. D. Thornbury*

Objectives To characterise membrane currents in corpus cavernosum cells.

Design and Methods Cells were freshly dispersed from rabbit corpus cavernosum and studied using the amphotericin B perforated patch technique. Patch pipettes contained caesium to block potassium currents. Means were compared using Student's paired t test.

Results Cells were held at -60mV and stepped to potentials of -80mV to +30mV (Fig. 1). Transient inward current was observed at the beginning of the test steps, typical of L-type calcium current. There was also a slowly developing current that was inward at negative potentials but reversed near the chloride equilibrium potential (0mV). This current was sensitive to the chloride channel blockers anthracene-9-carboxylic acid and niflumic acid, and disappeared when the calcium current was blocked with nifedipine ($p < 0.05$).

Conclusions We have identified a calcium-activated chloride current in corpus cells, which we believe is likely to play a central role in regulating their tone.

P-004

Is there a Significance of Serotonin in the Control of Penile Flaccidity and Detumescence in the Human Male?

S. Ückert, Germany; M. Fuhlenriede, A. Becker, C. Stief, U. Jonas

Objectives Only few in vitro- and in vivo-studies to evaluate the significance of serotonergic pathways in the control of male sexual function have been carried out up until now. The aim of the present study was to elucidate further the effects of serotonin (5-HT) on an isolated human erectile tissue and to detect serum levels of 5-HT in the systemic and cavernous blood taken during different penile conditions from healthy males.

Material and Methods The effects of 5-HT on an isolated human corpus cavernosum (HCC) were investigated using the organ bath technique. 41 healthy adult male subjects were exposed to erotic stimuli in order to elicit penile tumescence and rigidity. Whole blood was simultaneously aspirated from the corpus cavernosum and the cubital vein during different penile conditions. Serum levels of 5-HT (ng/mL) were determined by means of an enzymelinked immunosorbent assay (ELISA).

Results Cumulative addition of 5-HT (0.001 -10 μ M) induced contraction of isolated HCC strips. The contractile response was abolished in the presence of 5-HT_{1A}-receptor antagonist NAN-190. No attenuating effect of 5-HT was observed an electrically induced relaxation of the tissue. Moreover, amplitudes of relaxation remained unaltered in the presence of NAN-190. In the healthy volunteers, a significant increase in 5-HT levels was detected in the cavernous serum from flaccidity (113 ± 62) to tumescence and rigidity (140 ± 69 and 141 ± 54 , respectively), followed by a decrease in the detumescence phase (123 ± 79). Changes in 5-HT levels in the systemic serum were less pronounced. Under all penile conditions, systemic 5-HT levels were higher than those registered in the cavernous serum.

Conclusion Although 5-HT does not appear to be involved in postsynaptic transmission in the HCC, our results may give evidence for a physiologic significance of 5-HT in the control of penile flaccidity and detumescence. Thus, our findings may give a rationale for the use of 5-HT antagonists in the pharmacotherapy of erectile dysfunction.

P-005

Expression of Functional Estrogen Receptors in Human Fetal Male External Genitalia

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Male fetal genital development is regulated by androgens on a default program to female genitalia. This study investigates the presence of androgen and estrogen receptors (AR and ERs) in human fetal penile tissue and in a cellular model of human fetal penile smooth muscle cells (hfPSMC). Immunohistochemistry showed the presence of ERs and AR in the developing fetal penile tissue. hfPSMC express both AR and ER α/β as demonstrated by RT-PCR, western and binding techniques ($K_d=0.13 \pm 0.05$ nM, R1881; $K_d=0.03 \pm 0.01$ nM, 17 β estradiol). Through ERs, 17 β estradiol increased progesterone receptor and inhibited hfPSMC growth ($IC_{50}=4.86 \pm 2.69 \cdot 10^{-12}$ M), both effects being reverted by tamoxifen. Conversely, cell proliferation was stimulated by R1881 ($EC_{50}=7.72 \pm 2.16 \cdot 10^{-10}$ M) and testosterone ($EC_{50}=3.99 \pm 1.45 \cdot 10^{-10}$ M). These findings are the first evidence of functional ERs and of the inhibitory role of estrogens on growth of fetal male external genitalia, suggesting a possible molecular mechanism for external feminization of male genitalia induced by prenatal exposure to estrogen-like compounds.

P-006

Enhanced Penile Erections through the Soluble Guanylyl Cyclase Stimulator BAY 41-2272 in Conscious Rabbits

E. Bischoff, Germany

Objectives NO-dependent increase of cGMP by PDE5 inhibition is an effective treatment for erectile dysfunction (ED). However, direct, NO-independent stimulation of soluble guanylyl cyclase (sGC) could be an attractive alternative therapeutic principle. BAY 41-2272 is a novel NO-independent stimulator of sGC, which interacts synergistically with NO. The objective of the study was to determine the effectiveness of BAY 41-2272 on penile erections in-vivo in a conscious rabbit model.

Design and Methods After BAY 41-2272 administration to rabbits, the length of uncovered penile mucosa was measured. Erections were evaluated in the absence and presence of SNP as NO donor.

Results BAY 41-2272 alone induces only weak penile erections in conscious rabbits after intravenous (1mg/kg) and oral (10mg/kg) administration. However, the efficacy of BAY 41-2272 was potentiated by simultaneous administration of SNP. In the presence of NO, the effective doses were reduced significantly (minimal effective dose 0.1 mg/kg i.v. and 1 mg/kg p.o.).

Conclusions The enhancing effect of BAY 41-2272 on penile erection was clearly demonstrated in the rabbit. The time course and onset of activity with simultaneous stimulation by NO suggest that BAY 41-2272 would also have enhancing activity during sexual arousal, when NO is produced endogenously.

P-007

Calcium Dobesilate Enhances the Efficacy of PDE5 Inhibitors on Erectile Function in Diabetes

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Objectives We have evaluated the effects of sildenafil, calcium dobesilate (DOBE) and its combination on penile relaxation and erectile responses in diabetic human tissue and diabetic animals, respectively.

Design and Methods Endothelium-dependent relaxation to acetylcholine (ACh) was analyzed in diabetic and non-diabetic human penile resistance arteries (HPRA) and corpus cavernosum (HCC). In vivo erectile responses were determined in control and streptozotocin-induced diabetic rats.

Results Diabetes impaired ACh-induced relaxation of HPRA and HCC. This impairment was reversed by sildenafil only in HCC. ACh-induced relaxations were completely recovered by DOBE in diabetic HPRA. Diabetes reduced erectile responses in rats. Sildenafil failed to recover erectile responses in diabetic rats while combination of DOBE+sildenafil fully reversed the impairment induced by diabetes.

Conclusion The partial effects of sildenafil on ACh-induced relaxation of diabetic HPRA could explain its reduced efficacy in diabetes. The results provide a rationale for the use of DOBE in combination with PDE5-inhibition to treat ED in diabetic patients.

P-008

Gene Transfer of Endothelial Nitric Oxide Synthase Partially Restores NO Synthesis and Erectile Function in Streptozotocin Diabetic Rats

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Introduction and Objectives To determine if adenoviral-gene transfer of endothelial nitric oxide synthase (eNOS) to the streptozotocin (STZ)-induced diabetic penis could improve diminished erections.

Materials and Methods Two groups were transfected: 1) STZ-diabetic rats with AdCMV β gal, 2) STZ-diabetic rats with AdCMVeNOS. Study animals underwent cavernosal nerve stimulation assessing erectile function and compared to control. eNOS and neuronal NOS (nNOS) protein, nitrate + nitrite levels, and constitutive and inducible NOS activities were evaluated.

Results STZ-diabetic rats had diminished erectile function. STZ-diabetic rats transfected with AdCMVeNOS had a peak intracavernosal pressure (ICP) and total ICP (area under the curve) similar to control. Changes in erectile function resulted from overexpression of eNOS protein, constitutive NOS activity and nitrate + nitrite formation. nNOS protein or iNOS activity was unchanged.

Conclusions Our results suggest eNOS contributes significantly to the physiology of erection and adenoviral gene transfer of eNOS can improve erectile function in STZ-diabetic rats.

P-009

Vardenafil Improved Erections in Rabbits longer than Expected from Plasma Half-Life

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Introduction The PDE5 inhibitor Vardenafil is under clinical investigation for treatment of ED. In humans its T_{max} of approx. 45 min. and an T_{1/2} of 4 to 5 hours opens a window of opportunity for sexual activity from approx. 0.5 to several h.

Here the time dependency of the efficacy of vardenafil calculated as AUC and its respective plasma concentration were evaluated in conscious rabbits.

Methods Vardenafil was administered orally to rabbits at 3mg/kg to determine pharmacokinetic parameters. For efficacy measurements 1mg/kg vardenafil was administered and erectile responses were evaluated by measuring the length of uncovered penile mucosa after iv administration of 0.2mg/kg SNP (NO donor) -administered at 0.5, 1, 3, 5, 7 and 24 h after oral administration of vardenafil.

Results Vardenafil was absorbed with a T_{max} of 0.9 h and elimination was rapid (T_{1/2} =1.2 h). Vardenafil significantly enhanced NO-induced erections when SNP was given 1 h after administration (p<0.001) and also induced erections when NO was given 0.5, 3, 5 and 7 h after oral vardenafil. At all time points erections were significant (p<0.05), even after 7 h when plasma levels had decreased to 2.5%. Still at 24 h an effect of vardenafil could be measured.

Conclusion: In rabbits elimination of oral vardenafil from plasma (t_{1/2} =1.2 h) is more rapid compared to that in humans (T_{1/2} = 4 to 5 h).). The efficacy of vardenafil in enhancing erections in rabbits is still significant after 7 h (4 x T_{1/2}). Vardenafil might be effective in humans for much longer than its measured half life.

P-010

Facilitation of Apomorphine-Induced Erection in the Rat by Selective α_1 D-Adrenoceptor Antagonist

P. Hedlund, Sweden; H. Mizusawa, J. Brioni, J. Sullivan, K.-E. Andersson

Objectives It is not clear which α_1 -adrenoceptor (α_1 -AR) subtype is of main importance for penile flaccidity, and therefore the actions of some subtype selective antagonists were investigated in a rat erectile model.

Design and Methods Effects of A-322312 (α_{1B} -AR antagonist), A-119637 (α_{1D} -AR antagonist), and prazosin (non-selective α_1 -AR antagonist) were studied in rat corpus cavernosum (CC) and cavernous artery (Acc). Effects of intraperitoneal (i.p.) administration of α_1 -AR antagonists on apomorphine-induced erections were investigated.

Results A-119637 inhibited nerve-induced contractions in CC (-logIC₅₀; 8.12), and relaxed noradrenaline (NA)-contracted CC more than 90% at 10⁻⁷ M. At the same concentration, the -logEC₅₀ value for NA in Acc was altered from 6.79 to 4.86. Similar activity was obtained for prazosin, whereas modest or no effects were seen with A-322312. A-119637 (0.3 μ mol.kg⁻¹, i.p.) tripled the number and prolonged the duration (6-fold) of apomorphine-induced erectile responses. Prazosin or A-322312 did not enhance erections induced by apomorphine.

Conclusions There seems to be a functional dominance of the α_{1D} -AR subtype in the rat erectile tissue. If valid for human tissue, a combination of an α_{1D} -AR antagonist and apomorphine may be an interesting principle for pharmacological management of erectile dysfunction.

P-011

Genetic Polymorphisms in Erectile Dysfunction

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Objectives G proteins, influenced by the GNB3 C825T allele status, are a key components of signal transduction. Another polymorphism in the angiotensin converting enzyme (ACE) has been associated with increased ACE activity and might play a role in the initiation of detumescence. We investigated whether GNB3 and/or ACE genotypes could be associated with ED.

Design and Methods Multicenter,retrospective cross-sectional analysis of 391 patients with ED and 111 healthy male for GNB3 C825T and ACE status by PCR and restriction enzyme analysis.

Results Genotype distribution of the C825T polymorphism (45 TT, 155 TC, 191 CC) was comparable with control (12 TT, 47 TC, 52 CC; IT 32.0 %). ACE-distribution was: 131 DD, 239 ID and 86 II; also similar to control: 29 DD, 62 ID and 17 II.

Conclusion The susceptibility to develop erectile dysfunction is not influenced by the genotype in the GNB3 C825T and/or the ACE D/I-polymorphism.

P-012

Sexual behavior in varicocelized rats

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Objective Evaluation of the sexual behavior in varicocelized rats.

Design and Methods An experimental varicocele model in 14 Wistar rats was created. Seven rats underwent a sham operation (control group). Sixty days after the operation, parameters of the sexual behavior and the androgen activity were evaluated in all rats.

Results The varicocelized rats showed a significant reduction in the left and right intratesticular versus intraabdominal temperature differences and a significant decrease in bilateral testicular, epididymal, and the accessory genital glands weight compared with the control group. There were no significant differences between the two groups in the parameters of sexual behavior evaluated (number of mounts, number of intromissions, intromission latency, ejaculatory latency, and post ejaculatory interval).

Conclusion Despite the lower androgen activity in the varicocelized rats, their sexual behavior was almost identical to that of normal rats.

P-013

Anxiety and Changes in Spermogramm Parameters

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Introduction Anxiety wich is associated wiht psychcal findings is the result of conflicts. In the studies made before conflicting results are reported regarding the effect of anxiety factor an spermogramm parameters. The purpose of this study is to determine the relationship between psychological stress and spermogramm parameters.

Material and Method The sample consisted of 47 healty young men (Trakya University Medical Shool second grade students)aged between 18-23 (mean:20 $\pm$ 1.11).Their anxiety before anatomy final exam and four monhts after the exam were evaluated by Spielberger adults anxiety condition test. Spermogramm tests (Volume, % motility, sperm count (density), % normal morphology) were performwd at the same time andrology laboratory in urology clinic. Prior to and after the exam the difference between the variables is evaluated by student-t test and average anxiety scoren in the dependent groups. The relationship between the found anxiety scores and the spermogramm parameters in evaluated by Pearson correlation analysis (X²test).

Results Between the anxiety scores prior and after the exam calaulatted noted a significant difference (t=8.473, p=0.000).A statistical significant difference is found between average % sperm motility. The difference between average normal and and abnormal % sperm morphology was statistically significant. This difference is the cause of an increase an % normal sperm morphology after the exam.

Conclusion The exam anxiety is an important stress factor for the students. Our results have similarities with the studies reporting negative effects of the physiological stress on spermogram parameters. Etiology and stress factor in the treatment of the infertility patients should be taken into consideration while adapting these results in the clinical practice.

P-014

Gene Expression in Testis after Experimental Varicocele in Wistar Rats

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Introduction The aim of this study was to assess the analysis of the gene expression in Wistar rats testicular tissues after experimentally induced varicocele.

Material and Methods 40 adult Wistar rats (160-180 g) were included in our study: 10 with partial ligation of the left testicular vein, 10 with partial ligation of the left testicular and the left renal veins, 10 sham-operated rats and 10 intact rats. After 4 weeks, we have performed the histological analysis of both testis, and the analysis of gene expression using RT-PCR, Quantitative PCR, cDNA expression Array and Northern blots for primary analysis.

Results Partial ligation of the left testicular vein or left testicular and left renal veins in Wistar rats induces alteration of spermatogenesis in left testicle, as well as potential risk of spermatogenesis disorder in right testicle. We found high range of the gene expression changes (it exceeded ten times for some genes) in experimental groups compared to control groups. These results seem to correlate with histopathological findings.

Conclusion Our preliminary results showed that a priori non-involved genes in the processes of spermatogenesis may play a much more important role in understanding infertility problems in patients with varicocele.

Clinical Research

P-015

Quality of Sexual Life and Satisfaction in Female Partner of Men with ED: Psychometric Validation of the "Index of Sexual Life" (ISL) Questionnaire

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Introduction and Objectives The ISL questionnaire has been constructed to assess the impact of ED on female partner. This 11 item questionnaire covers three domains: "satisfaction with one's sex life" (SL): 6 questions, "General Life Satisfaction" (GLS) 2 questions, "Sexual Drive" (SD). The scoring rules, construct and clinical validity and internal consistency were evaluated previously. This study assesses the reproducibility and discriminative power of ISL.

Material and Methods 721 couples representative of the average population were selected. The men completed the International Index of Erectile Dysfunction (IIEF5) and the women completed the ISL (D0). Two groups were determined: reproducibility group (376 couples) IIEF score ≤ 21 and control group (345 couples) IIEF score ≥ 21 . The reproducibility group has completed the questionnaires again a fortnight later (D15).

Results ISL scores were compared between groups with ANOVAs. The reproducibility was good for all dimensions. The mean change in scores between D0 and D15 was close to zero for each dimension indicating that the population selected was stable. All Intraclass Correlation Coefficient were above the recommended value of 0.70 except that of general life satisfaction.

Conclusion The results support the successful validation of the ISL questionnaire and indicate that it is a useful tool and is ready to be used in a variety of settings.

P-016

Comparison of IIEF and the Digital Inflection Rigidometer (DIR) Results. What is More Reliable in Order to Find out the Quality of Erection?

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Aim To evaluate the differences between IIEF and the DIR in order to evaluate the quality of the erection in an objective way.

Design & Methodology All patients did the IIEF questionnaire and the DIR test at home. Selection of 25 patients between the ages of 25-50 who consulted about ED for the first time. Complete clinical history in the first visit, complete blood test according to our protocol. Each patient responded to the IIEF questionnaire, they were instructed on how to use the DIR at home and responded to a brief survey about its utilisation.

Results IIEF: 9 patients (36%) answered "sometimes" to questions 1,2,3,4, their DIR tests registered values below 500g.

7 patients (28%) answered "few times" to questions 1,2,3,4. Their DIR axial rigidity values were between 700-800g with a duration of 15 minutes average.

6 patients (24%) answered "more than half of the times", their axial rigidity values were between 700-800g.

3 patients (12%) answered "many times" to questions 1,2,3,4 and "very difficult" to question 5. Their DIR readings were between 700-900 g but the duration was under 2 minutes.

Conclusion 36% of the patients had IIEF results that were comparable to those registered by the DIR, 64% showed diverging results indicating that in this study the IIEF was subjective for 64% of patients whilst the DIR showed objective quantifiable results of the quality of the erection.

P-017

Structured Interview on Erectile Dysfunction (SIEDY): A New, Multi-Dimensional Instrument for Quantification of Pathogenetic Issues on Erectile Dysfunction

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Objectives Definition of a brief structured interview (SI) providing scores useful for identification and quantification of pathogenetic factors of erectile dysfunction (ED).

Design and Methods A SI was developed and applied to a consecutive series of 320 ED patients. A 13-item SI, with three factor analysis-derived scales, was identified and applied for validation to an independent consecutive series of 194 ED patients. PGE₁ intracavernosal injection (ICI), penile duplex ultrasound (PDU), blood hormones, PSA, glycemia, and lipids were used for the assessment of an organic component (OC), and Middlesex Hospital Questionnaire modified (MHQ) for psychological disturbances.

Results Scale 1, dealing with OC, showed a positive correlation with age, BMI, blood pressure, glycemia, and inverse correlation, with testosterone, PGE₁ and PDU parameters. Scale 2, related to partner's relationship, was not correlated with organic parameters. Scale 3 which measures psychopathological traits was correlated with MHQ scales. Scale 1 (>3) had a sensitivity of 67.9% and a specificity of 67.6% for OC.

Conclusions SIEDY provides information on ED pathogenesis and might assist physicians in diagnostic and therapeutic choices.

P-018**Objective Assessment of Erectile Response with Visual Sexual Stimulation plus Sildenafil Citrate Test**

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The aim of the study is to evaluate the effectiveness of real time penile rigidity monitoring with oral sildenafil plus visual sexual stimulation (VSS-Sildenafil) test on clinical setting for making the possibility of erectile response to sildenafil treatment depend on different penile vascular status.

Forty-six consecutive males with erectile dysfunction (ED) were assessed with detailed sexual history, serum chemistry panel, penile Doppler ultrasonography and "VSS-Sildenafil" test. "VSS-Sildenafil" test was performed in three steps with real time monitoring of penile rigidity using Rigi-Scan as firstly VSS, secondly VSS plus 50 mg. Sildenafil citrate intaking (VSS-Sildenafil50) and, when it's required, thirdly VSS plus 100 mg. Sildenafil citrate intaking (VSS-Sildenafil100). "VSS" and in another session "VSS-Sildenafil50" test were performed for all patients. If penile erectile response was insufficient, "VSS-Sildenafil100" test was performed in another session. More than 10 minutes with >70% penile radial rigidity was accepted as sufficient penile erection for vaginal penetration. Penile vascular status was classified as penile arterial insufficiency, veno-occlusive dysfunction, mixed type penile vascular impairment and normal penile vascular system.

The mean age and number of the patients depend on erectile rigidity and penile vascular status were summarized in the table. There was positive erectile response with sildenafil citrate at home setting in 71% and 63% in which patients sufficient penile rigidity were determined after "VSS-Sildenafil50" and "VSS-Sildenafil100" tests, respectively. Failure on erectile activity was reported by 69 per cent of the patients, who had negative erectile rigidity on "VSS-Sildenafil100" test. Twelve of 46 patients could not used sildenafil citrate at home due to several reasons, mainly socio-economic factor.

	VSS(+)/ VSS-Sildenafil50(+)	VSS(-)/ VSS-Sildenafil50(-)	VSS(+)/ VSS-Sildenafil100(+)	VSS(-)/ VSS-Sildenafil100(-)
NPS	1	9	1	3
AI	2	2	5	8
VOD	2	5	2	3
MTVI	-	1	-	4
Total	5	17	8	18

NPS: normal penile vascular system; AI: arterial insufficiency; VOD: veno-occlusive dysfunction; MTVI: mixed type vasculogenic impairment

In our country, because prescription of sildenafil citrate has not been covered by social security organizations, the sexual response of sildenafil citrate can not be assessed with 6 to 8 doses at home setting by the patients due to cost of the drug. The real time monitoring of penile radial rigidity with Rigi-Scan after sildenafil citrate intaking, covered by social security organizations, can be an alternative method in the evaluation of erectile response to sildenafil citrate treatment.

P-019**P300 EEG Wave - A New Objective Measurement for Sexual Interest**

I. Grünwald, Israel; D. Yarnitski, E. Sprecher, Y. Vardi

Objective In the era of centrally acting drugs for ED, there is need for an objective method to assess sexual interest (libido). P300 Event Related Potentials (ERPs) might respond to this need. These waves are produced in reaction to changes in sensory external stimuli, that can cognitively compete with incoming visual erotic stimuli. Our aim was to show that in normal subjects, a change in p300 response occurs during erotic stimulation.

Methods Auditory stimuli of two different frequencies were applied to produce P300 responses, while subjects simultaneously viewed an erotic and a control, non-erotic film; We derived P300 waveforms from the EEG and determined peak amplitude and latency differences between erotic film and control film conditions, at 3 EEG sites (Cz, Fz, Pz).

Results 18 volunteers provided useful EEG and ERP results. At all EEG sites, we obtained significant peak amplitude differences, demonstrating the effects of the erotic film. At Cz, average amplitude reduction was -6.00 microvolts ± 7.98 (mean $\pm$ sd), $P=0.0027$; at Fz, -3.85 ± 7.54 , $P=0.022$; at Pz, -3.80 ± 8.59 , $P=0.039$. Only at Fz latency of peak amplitude showed a trend for delay due to the erotic stimuli of 10.9 msec ± 28.4 , $P=0.06$.

Conclusions This is the first time that objective measurement of sexual interest has been presented. Our study shows that discrimination of erotic from non-erotic stimuli in normal subjects by P300 ERP is feasible, mainly using the peak amplitude parameter. This method may eventually provide us with new criteria for a more accurate diagnosis of psychological sexual disorders.

P-020**A Conservative Treatment Option for Curing Venous Leakage in Impotent Men**

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Objectives It has been shown that contractions of the ischiocavernosus (IC) muscles are very important in the process of penile rigidity during erections.

Design & Methods 124 impotent patients suffering from mild to medium venous leakage entered a placebo-controlled trial (three arms: 1. special pelvic floor training programme – known as VigorRobic®, 2. Viagra®, 3. placebo). Questionnaires (KEED, GAQ and IIEF) and cavernosometry were used.

Results There was a significant difference in the subjective results reported by the pelvic floor exercise group (80% of the patients obtained better erections) and the Viagra® group (74%), compared to those taking the placebo (18%). Additionally, a mean 46% improvement in penile rigidity was measured in the pelvic floor exercise group after 3 months.

Conclusions Pelvic floor exercise – VigorRobic® - is a realistic conservative alternative treatment option in patients with mild to medium degrees of venous leakage or insufficiency of the veno-occlusive system.

P-021**The Development of a Model to Investigate the Relationship of Bicycling and Pudendal Neurovascular Function in Healthy Male Subjects**

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Objectives We have developed an experimental model to noninvasively measure the effect of bicycling on pudendal neurovascular function in healthy male subjects. This will enable the study of acute changes in neurovascular parameters that may lead to pathological disturbances in erectile function brought on by bicycling.

Methods Doppler ultrasound of the cavernosal arteries, tributaries of the pudendal artery, was used to measure blood flow. Tissue oxymetry was used to measure the transcutaneous penile oxygen pressure (tPO₂) of the glans penis by the dorsal arteries. The Cutaneous Perception Threshold (CPT) was used to examine for changes in penile skin sensitivity. The subjects cycled astride a classical style racing bicycle frame and saddle at low intensity.

Results The vascular tests demonstrated that, compared to baseline values, there was a marked drop in tissue oxygen tension (28% of baseline, $p = 0.002$) and blood flow (57%, $p = 0.015$) while astride the bicycle, and a post-activity rebound overshoot from baseline flow (131%, $p = 0.09$). Preliminary neural investigations demonstrated that CPT was significantly increased while astride the bicycle (116%, $p = 0.04$), and returned to baseline by 10 minutes post-activity.

Conclusions To the best of our knowledge, this is the first model developed to directly and noninvasively examine physiological changes in blood flow and peripheral neurology due to bicycling.

P-022**XX Males with and without SRY Gene Show Normal Sexual Functioning**

M. Latini, Italy; L. Gandini, A. Lenzi, F. Forte, M. Bitelli, G. Virgili, F. Romanelli

To present two XX-males with normal male phenotype and with primary infertility.

The patients have been submitted to endocrinological screening, semen analysis, karyotype and PCR amplification for Y specific sequences (SRY). Furthermore, pharmaco-penile duplex ultrasound was performed after asking the patients to answer the questionnaire of IIEF.

Hormonal profile showed high levels of both gonadotropins with normal levels of T, FT, DHT, E2 and PRL. Semen analysis demonstrated azoospermia while karyotype revealed normal female chromosome. Molecular studies revealed SRY-positivity and -negativity for patient one and two, respectively.

Both patients reported high scores for erectile function, sexual desire, orgasmic function, intercourse satisfaction and overall satisfaction in the IIEF, confirmed by normal flow parameters, PSV, EDV and RI.

The male patients affected by this rare syndrome, even though sterile, may experience a normal sexual life sustained by normal androgen levels, libido and erectile function.

P-023**Effect of Sildenafil on Nocturnal Erections of Potent Men**

O. Yaman, Turkey; Z. TOKATLI, T. INAL, K. ANAFARTA

Objective: We try to evaluate the effect of sildenafil on nocturnal penile erections of potent men.

Material and Methods: We recruited 22 medical students (n:8) and urology residents (n:14) 23 to 29 years old into the study. A disorder-free medical and sexual history and normal erectile functions were the only inclusion criteria. All subjects completed 3 sessions of consecutive nights using the RigiScan Plus device. After a first night of adaptation, night 2 recordings was their baseline values whereas they received sildenafil 100 mg on night 3.

Results: We observed statistically significant difference with regard to those NPT parameters at the nights with sildenafil: number of erectile episodes; duration of tip rigidity > 60 % , RAU tip, RAU base and TAU tip (p < 0.005). Although the duration of erectile episodes (min) and TAU base were greater during the sildenafil night, these did not reach statistical significance.

Conclusion: Our study showed that sildenafil can improve nocturnal erectile quality but not only in patients with ED as previously published but also in potent males.

P-024**Effects of Sildenafil on Sleep-Related Erection in Healthy Men**

B. Madeo, Italy; M. Fabbi, V. Rochira, A. R. M. Granata, E. Valassi, A. Balestrieri, C. Carani

Objective We studied the effects of sildenafil on sleep-related erections in 44 adult healthy men not affected by erectile dysfunction (39.3 ± 10.5 years).

Design and Methods All subjects were randomly administered sildenafil 50 mg or placebo before sleeping one night and vice versa the following night. Total number of valid erections, rigidity and increase of tumescence were analyzed during sleep by RigiScan. The study concerned the first 4 hours of record and, for the subjects whose record lasted at least 8 hours, also the second 4 hours.

Results Except maximum increase of tumescence, all the parameters were significantly higher after sildenafil than after placebo administration.

Conclusions Sildenafil, administered at bedtime, is efficacious in improving sleep-related erections in normal men, indirectly confirming that nitric oxide pathway is crucial in the physiology of erections during sleep. The effect of sildenafil is prolonged to at least 8 hours after its administration.

P-025**Combined Viagra® and Vacuum Constriction Device for Treating Erectile Dysfunction (ED)**

J. Chen, Israel

Objectives This prospective study evaluates efficacy of combining Viagra and a vacuum constriction device (VED) in patients failing both modalities when used alone.

Materials and Methods Men complaining of ED who were not entirely satisfied with either Viagra® 100 mg or VED were treated with combination of both. Evaluation was done before and after each treatment modalities using International Index of Erectile Function (IIEF) questionnaire.

Results Forty-one men (mean age 58 years) treated with combination of Viagra® and a VED reported higher satisfaction then with each treatment alone (P<0.0001) of IIEF questions and/or domains.

	Erectile Function	Intercourse Satisfaction	Orgasmic Function	Sexual Desire	Overall Satisfaction
Pre-Treatment	10.2	4.8	8.3	6.6	4.4
Viagra	15.7 (P<0.001)	5.6*	8.1*	6.6*	5.6*
VED	17.1 (P<0.001)	5.0*	8.7*	6.6*	5.7*
Combined Treatment	27.4 (P<0.001)	7.8 (P<0.001)	10.2 (P<0.001)	7.5*	8.9 (P<0.001)

Conclusions Combination of Viagra and VED has significantly higher satisfaction as evaluated by the IIEF score in patients failing with each modality when used alone.

*NS

P-026**Nocturnal erections following radical prostatectomy**

F. Colombo, Italy; A. Guarneri, J. Kartalas Goumas, E. Austoni

Introduction and Objectives This study was aimed at evaluating the time of appearance of nocturnal erections after nerve-sparing radical prostatectomy (NSRP).

Methods 18 sexually active patients with clinically localised prostate cancer underwent NSRP, by retropubic (5) or perineal technique (12). As the catheter was removed, all patients were subjected to RigiScan for 3 nights. If no tumescence was recorded, the device was applied again every 10 days for 3 months.

Results 14/18 pts showed tumescence activity: 8 in the 2nd RigiScan session (day 14 e 18) and 6 at the 3rd session (day 28).

Conclusions In most patients undergoing NSRP, early nocturnal tumescence activity may start within the first post-operative month.

P-027**The Significance of Duration of Marriage and Systemic Risk Factors in the Evaluation of Erectile Dysfunction**

G. Aslan, Turkey; O. Demir, E. Kurtulan, A. Esen

Objective Our aim was to assess patients with erectile dysfunction (ED) regarding to their duration of marriage and risk factors for ED.

Design and Methods: A total of 133 patients, 23 to 76 years old, were included in the study. ED status of patients was compared according to the duration of marriage and risk factors for ED. Each systemic disease accepted as risk factor of ED scored 1 point.

Results: Admission for medical advice was cumulated mostly in the period of 30th-40th years, first year and 20th-30th years of marriage subsequently (Figure 1). Mean age of the subjects who admitted to

medical care in the first year of marriage was 28.6 ± 3.1 years and they had no risk factor for ED. Mean age and mean risk factor for the subjects in the 20th-30th and 30th-40th years of marriage were 52.3 ± 6.8 and 57.3 ± 5.3 years and 0.68 and 0.71 respectively.

Conclusions: After long marriage intervals, psychogenic factors probably due to routine marital relations may be involved in the etiology of ED.

P-028

Evaluation of Patients with Erectile Dysfunction (ED)

According to SHIM Scores

K. Ayut, Turkey; Ö. Demir, E. Kurtulan, G. Aslan, A. Esen

Introduction and Objective The sensitivity and specificity of Sexual Health Inventory of Men (SHIM) in discriminating men with ED and without ED has been reported to be 0.81 and 0.57 respectively. In this study we aimed to determine the relation of risk factors for ED with respect to age and SHIM scores.

Material & Methods Between November 2001 and April 2002, patients with ED were asked to complete SHIM questionnaire. A total of 113 subjects with a score of less than 21 were included in the study. Patients were grouped according to systemic risk factors. Age and SHIM scores were compared in each group.

Results The mean age was significantly low in patients with depression. The scores of SHIM item 3 and 4 were significantly low in patients with coronary heart disease and hypertension respectively than the remaining groups which included patients with diabetes mellitus, depression or men with no risk factor ($p=0.013$ for both items).

Conclusion SHIM item 3 and 4 are seemingly most affected parameters in patients with cardiovascular disease. This group of patients should be monitored especially with these parameters.

P-029

Minimally Diastolic Velocity as a Predictor for Prolonged Erection after Intracavernous Pharmacostimulation

R. Badalyan, Armenia; I. G. Aghajanyan

Introduction The study was designed to evaluate the diagnostic value of minimal diastolic velocity (MDV) in prediction of prolonged erection after the intracavernous injection (ICI) of vasoactive preparation.

Material and methods Since 2001y 49 patients aged between 20 to 67 years underwent Color Coded Duplex Ultrasound, performed after intracavernous stimulation in erectile dysfunction diagnosing. In both cavernous arteries the peak systolic velocity (PSV), minimally diastolic velocity (MDV) and resistance index were calculated. The rigidity after ICI test were checked and the duration of the full rigid erections were calculated.

Results In 25 cases out of 49 (51%) full rigidity lasting at list 15 minutes were described and in 5 cases out of them prolonged erection were seen. A strong divert correlation between MDV and time of erection is found ($r = -0.62, p < 0.05$).

Conclusion The MDV is recommended as a predictor of prolonged erections in patients undergoing ICI.

P-030

Erectile Dysfunction and Risk of Coronary Event

M. Callander, United Kingdom; M. Callander

A clinic was set up in January 2002 according to WHO guidelines. The cornerstone of clinical assessment of all men with ED is an initial diagnostic work-up and evaluation. Highly recommended tests which should be done on all patients are FBS, Fasting Lipids and early morning Testosterone. Results following diagnostic work-up of 71 patients showed Diabetes in 13-15%, SBP > 140mmHg in 52%, DBP > 85mmHg in 28%. Cholesterol > 5.0 in 30%, HDL < 1.0 in 15.7%, LDL > 3.5 in 32%, Triglyceride > 2.3 in 21% (units mmol/L). Testosterone < 10nmol/L in 10%.

Cardiac Risk Assessment (10 year risk of non-fatal MI or coronary death) 73% patients had a cardiac risk of > 15% and 15% patients had a cardiac risk of > 30%.

Conclusion This pilot audit shows a strong correlation between ED, smoking and an increased cardiac risk. A dedicated secondary care community based ED clinic provides an excellent opportunity to develop a holistic assessment and treatment for this condition.

Dr Michael J Callander 2002c

P-031

Patient's Self-Evaluation but not Response to Intracavernous Alprostadil Testing is Related to the Degree of Erectile Dysfunction

R. Casella, Switzerland; K. Lehmann, A. Deckart, S. Laschke, T. C. Gasser

Objectives To compare erectile dysfunction (ED) assessment based on patient's self-evaluation with the result of intracavernous alprostadil testing.

Design and Methods Using a self-report method 63 ED patients were prospectively investigated. Semi-quantitative parameters on seven criteria were assessed and intracavernous alprostadil test performed.

Results Twenty three (37%) men had erection insufficient for penetration, 26 (41 %) men needed manual assistance, and 14 (22%) could penetrate without manual assistance but erection was not sufficient for satisfaction. Patient's selfevaluation criteria such intercourse per week, patient's satisfaction, penile rigidity, duration of erection, and time between consultation and last satisfactory intercourse showed discriminating differences in accordance with the three subgroups of penetrative ability ($P < 0.02$). Intracavernous testing could not reproduce the degree of erectile deficit as experienced during intercourse ($P = 0.21$).

Conclusions Patient's self-evaluation better predicts penetrative ability than response to intracavernous injection. These criteria quantify both objective degree of ED and patient's apprehension. Consequently, patients may undergo immediate treatment without further testing.

P-032

Nocturnal erections following radical prostatectomy

F. Colombo, Italy; A. Guarneri, J. Kartalas Goumas, E. Austoni

Introduction and Objectives This study was aimed at evaluating the time of appearance of nocturnal erections after nerve-sparing radical prostatectomy (NSRP).

Methods Twelve sexually active patients with clinically localised prostate cancer underwent NSRP, by retropubic (7) or perineal technique (5). As the catheter was removed, all patients were subjected to RigiScan for 3 nights. If no tumescence was recorded, the device was applied again every 10 days for 3 months.

Results 10/12 pts showed tumescence activity: 8 in the 2nd RigiScan session (day 14 e 18) and two at the 3rd session (day 28).

Conclusions In most patients undergoing NSRP, early nocturnal tumescence activity may start within the first post-operative month.

P-033

Remission of a Gender Identity Disorder

G. Corretti, Italy; C. Basile Fasolo

Objective Present work describes a case of transsexualism female to male observed in our sexual clinic.

Materials and Methods A 25 years old female outpatient, came to our sexual clinic in the November 2000, reporting a pronounced suffering and discomfort about her gender identity since she was a child, feeling a strong identification in the opposite sex. She kept the intention to change her sexual characteristic with medical and surgical therapy. During the medical examination, she presented soft depressive symptoms and episodes like panic attacks. Her sexual life seemed very limited and she avoided the contact with her sexual parts, by herself or somebody else.

Results At first, we proposed to the patient to undertake an adequate treatment to improve her mood and anxiety symptoms. We showed her the complete passage to change her sexual characteristics. Following, the patient significantly improved in the psychic symptoms, and sexuality: she presented very soft difficulties in the exhibition and contact of her body with a sexual partner. On this way she reached a valid and satisfactory sexual response and life. On May 2002, the patient maintained that she didn't want to make any kind of treatment to change her sexual characteristics.

Conclusions This case underlines, one more time, the necessity of a multi-dimensional approach on every case of unclear gender identity, highlighting the opportunity of a prolonged observation before a medical or/and surgical treatment. These kind of therapy modify in the deep physical and psychic condition of the person and it could be a only one-way trip; in some cases it may represent a worsening element for the patient's health.

P-034

Sexual Disorders in psychiatric patients: results of an epidemiological study

G. Corretti, Italy; A. Papasogli, C. Basile Fasolo

Introduction and Objectives Anxiety and depression are usually considered as very important factors of the psychogenic sexual dysfunction. Aim of the present study was to assess the sexual response cycle and sexual dysfunctions in psychiatric patients.

Materials and Methods 59 consecutive out patients of both sex (40m, 19f) observed in their first contact with our psychiatric clinic, between March and June 2002. They were evaluated for Axis I psychiatric diagnosis (with SCID-Structured Clinical Interview for DSM-IV Axis I Disorders) and subdivided in groups: Mood Disorders (Depressive Disorder, Bipolar I and II Disorder), Anxiety Disorders (Panic Disorder with and without Agoraphobia, Obsessive Compulsive Disorder, Social Phobia, Generalized Anxiety Disorder) and Substance Abuse.

Results Patients with a Desire Disorders was 50.8%, an Excitement Disorders was 40.7% and an Orgasm Disorders was 39.0%, with cases of comorbidity. There was found correlation between Excitement Disorder (male and female) and Social Phobia ($p=0.032$), and between Orgasm Disorders and Generalized Anxiety Disorder ($p=0.026$).

Conclusions The high rate of comorbidity between psychiatric disorders and sexual dysfunctions seems to underline the close relationship between these two dimensions. The significative correlation of Social Phobia and Excitement Disorder could be supported by a common adrenergic basis; somatic anxiety expressions could represent the decisive factor to determine a sexual dysfunction or emphasize, often with precipitating action, pre-existent organic factors.

P-035

When an Erectile Dysfunction hides a Paraphilia

G. Corretti, Italy; C. Basile Fasolo

Introduction and Objectives Sexual response and psychic life are really close dimensions. Feelings, mood and emotion, in particular, are aspects that reflect directly on sexual desire and related variation in quantity and quality, and then on the entire sexual response cycle. Present work describes a case of erectile dysfunction observed in our sexual clinic.

Materials e Methods A 45 years old male outpatient, married since 19 years, high educational and social level; he reached in our clinic lamenting an erectile dysfunction, underlining as his wife "didn't follow his fantasies". During the conversation, the patient related about a chronologically progression of paraphilic thoughts and behaviors: fetishism, partialism, traits of exhibitionism and voyeurism, bondage behaviors, with a continuous research of the "new", especially through the vision of pornographic issues on internet (with discontrol in the use). The patient showed several dimensions of obsessive spectrum, in presence of on mood fluctuations.

Results At first, we explained him that his erectile dysfunction was the result of a deviation of the desire (thoughts and fantasies) and sexual attitudes, on the basis of various psychic dimensions. Then we proposed to the patient to undertake an adequate treatment to stabilize his mood condition and the anxiety symptoms. At this time, he refused any kind of treatment.

Conclusions This case underlines, one more time, the necessity of a multi-dimensional approach in sexology, for a right approach and treatment, where an apparent erectile dysfunction hides particularly psychic aspect in a patient with paraphilia. Sometimes, sexual dysfunctions represent only a symptom of a psychic disorder that concern the person in the whole.

P-036

Sildenafil has no negative effects on the autonomic cardiovascular

M. J. Hilz, Germany; H. Marthol, M. Brys, R. Franta, B. Stemper

Background There is controversy whether Sildenafil enhances sympathetic activity.

Objective We determined autonomic cardiovascular modulation after Sildenafil during exercise.

Methods In 40 healthy volunteers (27.9 ± 5.4 years), we monitored heart rate (HR), blood pressure (BP) and respiratory frequency (RF) at rest and during 50, 100, 150 and 200W exercise (3min each) (test 1). After 24h, we repeated the test after 100mg Sildenafil or placebo (test 2). We determined mean values and spectral powers of the signals in the low- (LF: 0.04-0.15Hz) and high-frequency-ranges (HF: 0.15-0.5Hz) reflecting sympathetic and vagal influences on cardiovascular modulation.

Results HR, BP, RF, LF-powers of HR and BP increased, HR-HF-powers decreased with exercise. Results did not differ between tests 1 and 2 or the Sildenafil- and placebo-group. Only BP was lower in the Sildenafil-group at rest and at 150 and 200W challenge.

Conclusion Sildenafil has no negative effects on autonomic cardiovascular modulation at rest or during exercise.

P-037

Correlation between the SLQQ and IIEF in Dutch Men with Erectile Dysfunction

H. H. Leliefeld, Netherlands; H. H. J. Leliefeld

Introduction The objective of this study was to evaluate the psychometric characteristics of the Sexual Life Quality Questionnaire (SLQQ) in patients with erectile dysfunction (ED). The SLQQ is a normative instrument designed to evaluate the sexual quality of life and satisfaction with treatment of ED patients and their partners. Ten items, with 9-point Likert scales, assess sexual quality of life and

produce a summary sexual quality of life scale (SLQQ-QOL). These items ask patients to rate their sexual quality of life over the past 8 weeks compared to the period of time prior to the development of ED. The remaining 6 items measure satisfaction with treatment using 6-point Likert scales. This study evaluates the psychometric performance of the SLQQ-QOL index.

Methods This cross-sectional study involved 94 patients from the Netherlands aged between 18-75. Efficacy was assessed using the International Index of Erectile Function (IIEF), a widely accepted gold standard for the clinical assessment of erectile function. The IIEF has a recall period of 4 weeks and consists of 15 items across five domains: erectile function (EF), orgasmic function (OF), sexual desire (SD), intercourse satisfaction (IS) and overall satisfaction (OS). The level of correlation between the SLQQ and the IIEF were evaluated with particular emphasis on the EF domain of the IIEF.

Results The SLQQ-QOL demonstrated statistically significant ($p < 0.001$) correlation with all five domains of the IIEF: EF ($r = 0.55$) OF ($r = 0.59$) SD ($r = 0.39$) IS ($r = 0.46$) and OS ($r = 0.54$). In addition, the SLQQ-QOL demonstrated statistically significant correlation with every item of the EF domain of the IIEF (r range = 0.38-0.50).

Conclusion These findings support good concurrent validity between the SLQQ-QOL and IIEF in Dutch men in a significant and positive direction. The magnitude of correlation observed between the SLQQ-QOL and IIEF is similar to that observed in other instruments measuring similar concepts.

P-038

Exercise treadmill testing is a valuable tool for stratifying cardiac risk in ED patients

J. Man, United Kingdom; J. Man, H. Solomon, E. Martin, E. McGing, G. Jackson

Introduction Erectile dysfunction (ED) treatment can be safely initiated if patient can achieve the energy workload required for sexual intercourse without cardiac ischaemic sequelae.

Methods & Results Exercise treadmill testing (ETT) was performed in 85 of 115 men with cardiovascular disease and ED. Reasons for no ETT: awaiting coronary revascularisation (8); asymptomatic with <3 risk factors and good exercise tolerance (22). 17/85 could not perform 4 minutes of Bruce protocol ETT - thus intermediate/high risk. 5/25 intermediate/high risk and 12/90 low risk men had previous ED treatment. Low risk patients were offered ED treatment with no cardiac complications to date.

Conclusions The majority of cardiovascular ED patients are at low cardiac risk for sexual activity. ETT is useful when exercise tolerance or symptom thresholds are uncertain. ETT may appropriately deny ED therapy in intermediate/high risk men, and allow treatment for low-risk cardiovascular patients.

P-039

Rigiscan Assessment of Erectile Responses to Sexual Stimuli in Spinal Cordlesioned Patients

M. Mas, Spain; A. Sanchez-Ramos, E. Vargas, R. Lopez-Reneo, C. Artimo, J. Fuentes, V. Gandia

Objectives Physiological assessment of erectile responses in spinal cord-lesioned patients.

Methods On-line Rigiscan recordings were obtained in patients with spinal cord lesions during the following stimulation sequence: audio-visual neutral, audio-visual erotic (AVE), and AVE plus tactile self-stimulation. In successive sessions the patients were given no treatment (Basal), 50, 100 mg Sildenafil.

Results To date 26 subjects have been studied. Patient self-rating was significantly correlated with the Rigiscan measures (increase in tumescence, rigidity, erection duration, RAU and TAU). As expected patients with high (C6-Th9) lesions had less responses to AVE stimulation than patients with low (Th11-L4) lesions. The most conspicuous effect of Sildenafil on the Rigiscan measures was the increase in response duration and related parameters (RAU and TAU) to above twice the basal levels both in high and low-lesioned patients.

Conclusion Laboratory assessment of spinal cord-lesioned patients provides valuable information for understanding their response to erectogenic drugs.

Grant PM99/0144

P-040

Potency and sexual intercourse following nerve sparing prostatectomy and nerve sparing cystoprostatectomy.

IIEF5 and questionnaire results

U. Michl, Germany; J. Noldus, M. Graefen, M. Friedrich, S. Hautmann, H. Huland

Introduction Evaluation of sexual function following nerve sparing prostatectomy (nRRP), and nerve sparing cystoprostatectomy (nCP) by questionnaires.

Method Between January 1999 and April 2001 15 nC and 301 nRRP were done.

Results 13 nCP and 210 nRRP were available (age 58,0 + 5,7 y and 61,7 + 6,3 y ($p = 0,02$))

erection	0	1-3	4-5
nCP	25,0	50,0	25,0
nRRP	13,5	47,1	39,4

intercourse	yes	no	
nCP	25,0	75,0	
nRRP	45,4	54,6	
IIEF5	<14	15-19	20-25
nCP	64,6	27,3	9,1
nRRP	54,9	15,3	29,8

health status	good	fair	bad
nCP	83,3	16,7	0,0
nRRP	85,2	13,3	1,5

Erectile medication: injections 1/17, MUSE 0/1, Viagra 1/9, vacuum device 0/6 of the nCP/nRRP respectively. Orgasm unchanged in 16,7%/38,9%, reduced in 58,3%/41,4%, lost in 25%/18,8% of the patients respectively.

Conclusions nCP offers good functional results. A nerve damage outside the resection of a nRRP is possible.

P-041

'Wide Excision' And Autologous Sural Nerve Grafting For Recovery Of Erectile Function After Radical Prostatectomy

J. Miller, Germany; E. Hauck, M. Winking, M. B. Altinkilic, W. Weidner

Introduction and Objectives Wide bilateral excision of the neurovascular bundles in cases of localised prostate cancer affecting both lobes and/or the apex causes the loss of spontaneous erections and ablates the response to sildenafil. Interposition sural nerve grafting offers the increased possibility for the recovery of spontaneous erections.

Material and Methods From our own series we only have considered patients with a follow-up of at least 12 months. 10 men with normal erectile function (mean age: 60.5 years; range: 50-68 years) with clinically localised prostate cancer affecting both lobes and/or the apex underwent radical retropubic prostatectomy with wide bilateral excision of the neurovascular bundles and bilateral ($n=6$) or unilateral ($n=4$) sural nerve grafts. The erectile function was evaluated by the IIEF questionnaire and an intracavernosal injection test (10 µg PGE1) preoperatively and at 6 and 12 months postoperatively.

Results Of the 10 men one has spontaneous erections sufficient for vaginal penetration without medical assistance at 23 months after surgery. 6 men have erections sufficient for sexual intercourse with the assistance of sildenafil. 3 men did not notice a return of erectile function up to now.

Conclusions This technique prolongs the duration of surgery by approximately one hour, but it does not increase the mean blood loss. We did not observe complications caused by the harvesting of the sural nerve. We conclude that at least half the men undergoing this procedure will recover their erectile function either spontaneously or with the assistance of sildenafil. Recovery of spontaneous erectile function sufficient for vaginal penetration is possible even after a time of more than 20 months.

P-042

The Mechanisms of NO Generation at Healthy Men and Patient with Erectile Dysfunction

Y. Miroshnikov, Ukraine; I. I. Gorpynchenko, N. M. Gulaya, A. V. Kotsuruba, O. M. Buchanevich, G. V. Kosyakova

Introduction and Objectives The aim of our investigation was to determine the activity of NO synthesis de novo by L-arginine oxidation and by NO₃⁻ and NO₂⁻ reduction pathways in cavernous blood of healthy men and patients with erectile dysfunction at the normal status and under sexual stimulation.

Materials and Methods The activity of iNOS, cNOS, nitrite- and nitrate-reductases, arginase and ornithine carbamoyltransferase (OCT), the amount of arginine and key products of its metabolism in basic status and after sexual stimulation (50 mg of 'Viagra' and erotic video stimulation) in cavernous blood of 33 healthy volunteers (33.8±1.7 age) and 52 impotence men (30.6±1.6 age) were studied.

Results In basic status, arginase and iNOS activity of impotence men substantially increased than of healthy men; but cNOS and nitritoreductase activity – decreased ($p < 0.01$). After sexual stimulation arginase and cNOS activity of impotence men increased; iNOS and nitratoreductase activity substantially decreased ($p < 0.01$). We established that in the process of sexual stimulation in healthy men, cNOS activity decreases, but iNOS – increases; the opposite occurs in impotence men (cNOS – increases, iNOS – decreases) ($p < 0.01$). Nitratoreductase activity increases only in healthy men ($p < 0.05$). Arginase and OCT activity decreases in both ($p < 0.05$).

Conclusions Increased activity of arginase, insufficiency of reductases and disco-ordinational activation of isoforms of NOS contribute to ED.

P-043

Male Sexual Dysfunctions and Multimedia Immersion Therapy

G. Optale, Italy; A. Nata, S. Marin, C. Pianon

Introduction Following our earlier research, using psychotherapy integrating Virtual Reality for the treatment of sexual dysfunctions, we checked the efficiency of this method.

Method 12 sessions over six months on the ontogenetic development of sexual identity. Subjects : 40 psychological ED, 60 mixed, and 50 primary PE.

Follow-up 12 months after treatment.

Results After treatment, partial and complete positive response rate was 69%, excluding drop-outs (18%). At follow-up it was 71%, excluding drop-outs during the cycle plus no-shows for follow-up (19%).

Conclusions Although aware that results obtained are partially connected with non-inclusion of drop-outs, the effects were durable. This suggests that method accelerates the healing process by re-opening or consolidating old brain pathways: implying that new, rarely-used inter-synaptic connections may be established so that new mnemonic associations favoring satisfaction of natural drives can flow. Now, we are going to make available telemedicine and portable tools.

P-044

Vascular Disorders in Smokers with Erectile Dysfunction

S. Papadoukakais, Greece; C. Alamanis, S. Papaspirov, I. Anastasiou, D. Mitropoulos, A. Giannopoulos

Introduction and Objectives We studied, patients with erectile dysfunction, classified according to risk factors, using power doppler sonography.

Materials and Methods 107 patients of Andrology department were included in the study from April 2001 till May 2002. Group A (37pt) who were heavy smokers, group B (40pt) who were non-smoking diabetics, and group C (30pt) who suffered from hyperlipidemia and were non-smokers and non-diabetics. We injected Alprostadil (10mg) intracavernously and studied the penile vasculature afterwards.

Results We noticed severe arterial insufficiency in patients of Groups A and C. There was profound venous leakage in patients of group B. Strikingly, we observed severe arterial scarring mainly in group A (30 out of 37pt) and less in group C (5 out of 30 pt).

Conclusions Smoking seems to cause arterial insufficiency and furthermore scarring in penile arteries, as opposing to other risk factors of vasculogenic erectile dysfunction.