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MP-06.01
Comparative analysis of surgery vs. intralesional injection therapy for ventral Peyronie's disease

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Introduction and Objectives: Approximately 10% of Peyronie's disease (PD) patients present with ventral curvatures and, as such, there is a paucity of data describing the optimal approach for treatment. We sought to compare the outcomes of surgery (tunical plication (TP)) and intralesional injection (ILI) therapy (interferon-α2b) in men with ventral PD.

Methods: Retrospective data was collected from two centres: Tulane University (ILI) and Technical University of Munich (TP). Collected variables included patient demographics, pre- and post-treatment sexual function, rigorous penile measurements (curvature, length, and penile vascular findings), and post-treatment outcomes.

Results: A total of 35 patients with ventral PD (21 ILI and 14 TP) were included in the study. There were no significant differences between the two groups prior to the interventions. There was a significantly better improvement in mean curvature with TP (46.4 degrees) as compared to ILI (9.3), p<0.0001. TP was also associated with a significantly higher rate of ≥20% improvement in curvature as compared to ILI (100% vs. 67%; p=0.027). While there was no significant difference in post-treatment change in Sexual Health Inventory for Men (SHIM) scores between the groups, 36% of the ILI patients noted an improved SHIM score as compared to none in the TP group. Erect penile length was preserved or improved in 67% of the ILI group vs. 14% of the TP group; p=0.005.

Conclusions: TP confers a better overall improvement in penile curvature as compared to ILI in patients with ventral PD. Preserved or improved erect penile length and SHIM scores may be observed in patients undergoing ILI.

MP-06.02
Contemporary analysis of the surgical management of men with Peyronie's disease with hourglass deformity

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Introduction and Objectives: Less than 10% of Peyronie's disease (PD) patients have an hourglass deformity. We investigated the outcomes of two surgical interventions for PD patients with hourglass deformity — partial excision and grafting (PEG) or inflatable penile prosthesis (IPP) implantation.

Methods: Retrospective data was collected from two centres: Technical University of Munich (PEG) and Tulane University Medical Centre (IPP). Collected variables included patient demographics, pre- and post-treatment sexual function, penile vascular measurements, and treatment outcomes.

Results: A total of 50 PD patients with hourglass deformity (26 PEG (Group 1) and 24 IPP (Group 2) were included in this study. Patients in Group 1 had higher mean preoperative Sexual Health Inventory for Men (SHIM) scores (22.2 vs. 10.3; p<0.0001), required less erectile dysfunction (ED) treatment (35% vs. 79%; p=0.005), and had more non-vascular etiology on preoperative penile duplex Doppler ultrasound (PDDU) (77% vs. 21%; p<0.0001). There were no intraoperative complications, two patients in Group 1 had postoperative glans hypoesthesia, and one patient in Group 2 required surgical revision. All patients in both groups had significant ≥20% improvements in penile curvature, with mean changes of 68.1 degrees (12.7) in Group 1 and 49.6 degrees (13.5) in Group 2; p<0.0001. Resolution of hourglass deformity was achieved in 85% of patients in Group 1 and 100% of Group 2; p=0.045. The mean postoperative change in SHIM score was -0.3 (1.3) in Group 1 and 16.7 (4.7) in Group 2; p<0.0001.

Conclusions: Both surgical options provide excellent outcomes for well-selected patients with PD and an hourglass deformity. PEG can be offered to patients with good erectile function, while the IPP remains the preferred option for patients with poor erections.

MP-06.03
Is there an association between the degree of apical striated muscle in radical prostatectomy specimens and erectile function?

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Introduction and Objectives: Aggressive resection at the apex during radical prostatectomy has been thought to impact erectile function.[1] We have demonstrated that the amount of striated muscle (SM) seen at the apex of radical prostatectomy pathology specimens was significantly associated with postoperative urinary incontinence. The aim of this study was to determine if there is a similar association between postoperative erectile function and the amount of SM seen in radical prostatectomy specimens.

Methods: We reviewed the records of 61 consecutive patients at the University Health Network seen in followup after a radical prostatectomy. The primary outcome was erectile function. The pathological specimens from the prostatectomy were reviewed by two independent pathologists and the amount of SM in the specimen was quantified according to our previously described scoring system (SM score). We looked at pathological variables, including SM score, and operative variables, including nerve-sparing. Continence status and erectile function were determined based on history at the last known visit. Bivariate and multivariate analysis was conducted.

Results: The median age in the cohort was 62.5 years (interquartile range (IQR) 58.3-66.0). Median followup was 241.4 weeks after surgery (IQR 175.3-335.9). Overall, 25% of the cohort was able to achieve erections suitable for intercourse, with 20% requiring medical therapy. In multivariate analysis, we could not demonstrate an association between the degree of SM observed in radical prostatectomy specimens and erectile function. There were no other significant variables (age, followup, prostate weight, nerve-sparing, positive margins, and continence) associated with erectile function in the multivariate regression model.

Conclusions: In this cohort, there was no association between the amount of apical SM in prostatectomy specimens and erectile function after radical prostatectomy.

1. Skeldon SC, Gani J, Evans A, et al. Striated muscle in the prostatic apex: Does the amount in radical prostatectomy specimens predict postprostatectomy urinary incontinence? *Urology* 2014;83:888-92. http://dx.doi.org/10.1016/j.urology.2013.12.055

MP-06.04

Single-centre outcomes with synchronous dual AUS/IPP insertion through a penoscrotal incision

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Introduction and Objectives: Current gold standard of care therapies for patients with significant post-prostatectomy erectile dysfunction (ED) and stress urinary incontinence (SUI) are the inflatable penile prosthesis (IPP) and the artificial urinary sphincter (AUS). We sought to report our experience with dual synchronous AUS/IPP insertion through a single penoscrotal incision.

Methods: We retrospectively collected data on 33 patients who had synchronous dual insertion of AUS/IPP through a single penoscrotal incision between 2009 and 2014. Collected data included various patient, clinical, and surgical parameters. Post-surgical outcomes including erectile function, degree of incontinence, complications, and patient and partner satisfaction rates were also collected.

Results: The median age of the cohort was 64 (range 51-79). Comorbidites included hypertension (67%), dyslipidemia (52%), coronary artery disease (30%), diabetes (24%), with 21% of the patients receiving post-prostatectomy radiotherapy. Distribution of AUS cuff sizes was 3.5cm (33%), 4.0 cm (64%), and 4.5cm (3%). IPPs were three-piece in 70% and two-piece in 30%. At a median followup of 19 months (range 1-92), median Sexual Health Inventory for Men (SHIM) score improved from 5 to 25 and median pads per day decreased from six to one. Median patient and partner satisfaction rates were 9/10 and 10/10, respectively. Complications included three infections, two AUS cuff leaks, two AUS erosions, and one IPP distal erosion, and occurred more commonly in patients with comorbidities and/or previous radiotherapy.

Conclusions: Dual synchronous AUS/IPP insertion through a single penoscrotal incision is a safe procedure that can yield excellent results. Diabetes mellitus and previous history of radiotherapy convey a higher risk of device infection and AUS erosion.

MP-06.05

Testosterone (T) nasal gel restores T levels in hypogonadal men with seasonal allergies

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Introduction and Objectives: Testosterone (T) nasal gel is a new Health Canada-approved T-replacement therapy (TRT). Gel is applied intranasally in a few seconds. There is no hand contact with the gel, so possible transference is negligible. In Acerus' Phase 3 program, the incidence of symptomatic conditions was surprisingly low in patients with a history of allergic rhinitis (AR) and/or seasonal allergies. Here, we report results in hypogonadal men with emphasis on patients with a history of AR or seasonal allergies.

Methods: Patients (n=306) received T nasal gel for up to one year. Patients were randomized to a fixed-dose (33 mg) or titration arm (22 mg). T nasal gel was self-administered using a metered-dose dispenser. Patients in the titration arm could be up-titrated to 33 mg by their physician based on the serum total T average concentration (Cavg). The primary endpoint was the percentage of subjects with Cavg in the normal range (300-1050 ng/dL) at the end of the treatment period. Safety measures included the incidence of nasal adverse events and visual nasal examination. 59 patients (19%) had a history of AR or seasonal allergies.

Results: In hypogonadal patients with a medical history of AR or seasonal allergies, normal T levels were achieved in 79% of subjects, with the highest dose achieving 94% within that range. Normal T levels in the intention-to-treat (ITT) population were 73% (all doses) and 90% (highest dose). Discontinuation rates were similar in ITT and allergy populations and nasal examination showed no abnormal findings at one year. Most surprising was the very low incidence of seasonal allergy symptoms (3/52 or 5.8%) reported by susceptible patients while on treatment for ≥6 months. Reduced allergic reactivity is believed to be related to the gel formulation. In prior studies, the concomitant use of a decongestant did not modify absorption of T in those with symptomatic AR.

Conclusions: Testosterone nasal gel restored normal T levels in hypogonadal men, including those with a medical history of allergic rhinitis or seasonal allergies.

MP-06.06

Single-incision vasectomy reversal (SIVR): Less pain without compromising surgical outcomes

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Introduction and Objectives: The single-incision vasectomy reversal (SIVR) offers an innovative approach to VR by which the entire procedure is performed through a single midline mini-incision. Much like the no-scalpel vasectomy, the SIVR was designed with the goal of minimizing surgical dissection and reducing morbidity following VR. As a quality-based initiative, the current report highlights outcomes following SIVR compared to a bilateral incision VRs.

Methods: A prospective VR database was used to identify consecutive cases of primary bilateral vasovasostomy VRs. Cases were stratified into SIVR or bilateral incision VR (BIVR). Baseline patient characteristics, measures of pain, and functional recovery and postoperative patency outcomes were compared between the two groups. A SIVR was considered in the absence of significant vasal gaps, large sperm granulomas, and/or limited mobility of the scrotal contents. As in the no-scalpel vasectomy (NSV), the SIVR begins by stabilizing the vas directly under the scrotal skin at the midline raphae. The NSV ring clamp is used to capture the vas in the midline at the vasectomy occlusion site. A single small (<1 cm) opening in the scrotal skin is created and vas is gently exposed and delivered through the midline incision. The mobile and compliant the scrotal skin allows the midline incision to be shifted and brought to the vas, as opposed to the vas being mobilized to the anatomical midline. Once both ends of the vas have been delivered and stabilized in a vas approximator, the surgical microscope is used to complete the anastamosis according to surgeon preference. The contralateral vas is approached via the same incision, but through separate opening in the dartos muscle. This fosters a tension-free anastomosis, with each vas remaining in its respective hemiscrotal space separated by the dartos muscle in the midline. If necessary, the small opening in the skin closed with a single dissolvable suture.

Results: Of 1060 consecutive VRs performed by a single surgeon (EG), 100 consecutive cases of each SIVRs and BIVRs (200 cases total) were identified for a comparative quality-based analysis. Following the introduction of the single-incision approach to surgical practice, a SIVR was completed in 23% of patients. Baseline patient characteristics and postoperative outcomes are summarized in Table 1. Patients who had a SIVR reported

Table 1. MP-06.06.

Surgical approach	Male age	Female age	Vasal occlusion interval	% patency (mobile sperm)	Sperm concentration (million/ml)	% motile sperm	% normal morphology	Total motile sperm count ($x10^6$)
SIVR	38	33	5.5	94%	31	49	46	46
BIVR	41	38	7.8	93%	31	57	64	62

less pain during their first week of recovery, quicker resolution of pain, and returned to work earlier.
Conclusions: A SIVR is feasible option in well-selected men undergoing vasovasostomy without compromising patency rates or semen parameters. Minimizing the number and size of the incisions and the degree of surgical dissection involving the spermatic cord and testis appears to translate into less postoperative discomfort and quicker functional recovery.

MP-06.07

Transseptal crossover vasoepididymostomy and crossover vasovasostomy: Rare but useful techniques to restore fertility

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Introduction and Objectives: Vasoepididymostomy is a procedure used to restore patency in the context of an epididymal obstruction. In rare conditions, the spermatogenesis on one side may not be associated with patency of the vas deferens ipsilaterally. In such cases, transseptal crossover vasoepididymostomy (TSCOVE) or transseptal crossover vasovasostomy (TSCOVV) is an option to restore patency. We describe our technique and outcome in treating a patient with congenital unilateral absence of vas deferens (CUAVD) and contralateral testicular atrophy, as well as review the literature looking at techniques and outcomes of TSCOVE and TSCOVV.
Methods: A 30-year-old azoospermic male with left CUAVD complicated by high-riding testicle, agenesis of corpus and cauda epididymis, and atrophy of the contralateral testicle underwent a successful TSCOVE via testicular transposition with high cord mobilization. Successful return of ejaculated sperms was achieved. To our knowledge, this is the first description of such technique in a patient with CUAVD. The review of literature discussing TSCOVE or TSCOVV yielded four articles published between 1985 and 2003 that together described 17 and 26 cases of each procedure respectively whose outcomes were reviewed.[1-4]
Results: A review of literature along with our case showed a total patency rate of 82.35% in 17 TSCOVE cases and a pregnancy rate of 50% in 14 couples. This is in comparison with patency and pregnancy rates of 60% and 30%, respectively for 20 TSCOVV cases and 79.2% and 35.8% for all ipsilateral vasoepididymostomies in general.[5] Differences in repair technique, as well as causes of obstructive azoospermia — the most common being surgical injury — did exist between studies.
Conclusions: In the era of sperm retrieval and assisted reproduction, the literature supports that TSCOVE and TSCOVV using high cord release remain useful techniques to restore patency and fertility in patients with complex obstructive azoospermia.

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MP-06.08

Outcome analysis of patients with Peyronie's disease who elect non-invasive management

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Introduction and Objectives: Peyronie's disease (PD) affects approximately 1% of men and has numerous proposed treatments. Invasive management options include surgical or injectable therapy, while penile traction therapy with vacuum erection device (VED) represents a non-invasive approach. The objective of the present study is to assess outcomes for patients with PD who opt for non-invasive management.
Methods: Retrospective analysis of clinical data was performed for patients assessed for PD between July 2014 and November 2015 who were followed for at least three months and opted for non-invasive therapy. All patients were instructed to initiate traction therapy with VED for 10 minutes twice per day. Patients were assessed for degree of Peyronie's deformity and erectile function at initial and subsequent encounters.
Results: In all, 24 patients met the inclusion criteria. The mean (standard deviation (SD)) age was 57 (9.8) years, and the mean (SD) duration of PD prior to assessment was 23 (16.8) months. The mean (SD) duration of followup was nine (4.7) months. At followup, 16 men had not purchased a VED; 15 cited financial concerns, one was unable to contact the supplier. Among patients who did not use a VED, five showed improvement, 10 remained stable, and one had worsening curvature, with no significant change for this group in mean initial (SD) and followup (SD) curve of 52 (20)° and 48 (20)°. All eight men who initiated VED traction therapy had an improvement in curvature, with a significant mean improvement in initial (SD) and followup (SD) curve of 63 (23)° and 32 (19)°, respectively ($p<0.001$). No complications were noted.
Conclusions: In patients who opt for non-invasive management of PD, VED traction therapy provides improved curvature resolution compared to those who do not use such a device.

Table 1. MP-06.07.

Study	TSCOVE			TSCOVV			
	Cases	Number of patencies/ followup patients	Pregnancies/ couples	Cases	Number of patencies/ followup patients	Pregnancies/ couples	Cause of vasal obstruction
Lizza et al.	-	-		11	4/8 (50%)	2/8 (25%)	Multiple
Pasqualotto et al.	3	3/3 (100%)	3/3 (100%)	2	1/2 (50%)	0/2 (0%)	Iatrogenic injury
Sabanegh et al.	10	8/9 (88.89%)	2/7 (28.57%)	-	-	-	Unknown
Sheynkin et al.	4	2/4 (50%)	2/4 (50%)	12	7/10 (70%)	4/10 (40%)	Iatrogenic injury
Mannas et al.	1	1/1 (100%)	-	-	-	-	Agenesis
Total	18	14/17 (82.35%)	7/14 (50%)	25	12/20 (60%)	6/20 (30%)	-

MP-06.09

Intracavernosal injection of Botulinum toxin to improve erectile function in older rats

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Introduction and Objectives: Erectile dysfunction (ED) in the aging male is exceptionally common and difficult to treat. ED in this population is multifactorial, with links demonstrated to structural changes in the penis, alterations in contractile properties through nNOS and RhoA pathways and the systemic effects of comorbid conditions. Botulinum toxin (BTX) has many therapeutic uses in medicine due to its effect on skeletal and smooth muscle relaxation. In this novel study, we investigated BTX utility as a treatment for ED in the aging population.

Methods: 10 male Sprague Dawley rats aged 8.5 months were used and randomized into BTX or control groups. Under microscopic visualization a 30-gauge needle was used to inject the rats' corpora with either 10 units of BTX in normal saline (NS) or 80 μmL of NS. Rats were observed for seven days for any complications. On Day 8, erectile function was assessed via cavernous nerve electrostimulation-induced intracavernosal pressure change (ICP). Penile tissues were harvested and analyzed with Masson's trichrome stain and immunohistologic staining for smooth muscle a-actin.

Results: There were no significant complications from the injections in either group. The BTX group had a significantly higher ICP on Day 8 following injection when compared to the control group (79.1 ± 5.4 cmH_20 vs 54.3 ± 4.5 cmH_20; $p<0.05$). The BTX group had a larger sinusoidal volume and thinner cavernosal smooth muscle.

Conclusions: Intracavernosal injection of BTX appears to be safe in rats. BTX injection increases sinusoidal volume by enhancing cavernous smooth muscle relaxation and subsequently allows an increase in blood flow and ICP. This is a novel study investigating BTX as a potential treatment for ED in the aging male. Short-term data is promising, but studies with longer followup are required to determine duration of efficacy. This animal model can be used as a trigger to investigate BTX as an off-labelled use for ED, particularly as salvage therapy among PDE5i non-responders or partial responders.