

long-term complications. However, post-operative unsatisfactory penile curvatures are frequent in literature. In this study, we wished to present long-term outcomes of PF after surgical repair approach with a surgical technique of simultaneous intraoperative curvature (ic) correction via tunica plication (tp) versus standardized technique with only correction of PF.

Materials and methods: Forty-five men operated for PF throughout a 11-year period. All patients (pts) had singular tear of the corpora cavernosa (cc). All surgical explorations were performed within 12 hours after the traumatic event. The size of the tear ranged between 8 and 20 mm in length. The tunica defect was closed by a double-layered technique with absorbable 2-0/3-0 polydioxanone. In pts that had required to correct a cc deviation a tp was then performed to straighten the tunica angulations in all pts with curvature greater than 30°, using 2 to 3 pairs of a 2-0 absorbable suture through the full thickness of the tunica albuginea. All pts were called for a semi-structured interview that identified 4 domains: penile appearance (PA), penile sensory (PS), erectile function (EF), sexual relationships and generic quality of life (GQoL).

Results: Thirty-nine pts (87.7%) agreed to participate. Twenty-eight pts (28/45, 71.8%), with an ic greater than 30°, were corrected (Group A: GA). The only correction of PF was achieved in 28% of the cases (11/39), (Group B: GB). Median time from the intervention to the interview was 44 months (6–132). Mean age of pts was 51.2 years (26–74). According to the answers 10.7% pts of GA and 9.1% of GB complained of suture-related complications as unpleasant feeling of bumps under the skin; in 2.7% and 9.1% pain was present during erection, respectively in GA and GB. Three pts (10.7%) in GA and 4 pts (36.4%, $p < 0.001$) in GB declared some degree of postoperative erectile dysfunction, while all pts in GA were able to complete sexual intercourse vs. 63.3% (7/11, $p < 0.002$) of GB. A significant difference ($p < 0.001$) was noticed in terms of subjective improvement in penile deformity between pts in GA (73.1%) and GB (42.1%). Also, post-operative sensory changes were significantly more prevalent ($p < 0.001$) among GA pts (21.4%) compared to GB (9.1%).

Conclusions: Our long-term results support that a simultaneous plication technique as correction after a PF, if needed, provides certain advantages in terms of PA, EF and GQoL post operatively, but not in PS.

SC6

An empirical antibiotic approach to couple infertility: Indications and efficacy

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Introduction: To analyze a retrospective study in which couples with an history of infertility were given an empirical antibiotic therapy with doxycycline, azytromycin, moxifloxacin in case of suspected sexual transmitted disease (STI), nevertheless negativity of cultural exams. To evaluate the benefit of the treatment on the improvement of seminal parameters and overall pregnancy outcomes, both natural and assisted.

Materials and methods: The records of 350 infertile couples, attending at our outpatient clinic, were reviewed. An amount of 136 couples were identified, responding to five main inclusion study criteria such as history of infertility, no male or female infertility factors, negativity of cultural exams both in male and female, at least two seminal parameters suggestive for infection. All couples were treated with 100 mg Doxycycline (1 tablet twice daily for 15 days a month for two months), 500 mg Azythromycin (1 tablet per day for 3 days every 10 days for 2 months), 400 mg Moxifloxacin (1 tablet per day for 7 days every month for 2 months). Couples were asked not to have sex during the first month of therapy and then resumed fertilizing intercourses. Semen analysis were performed at the end of the therapy. Statistical analyses comparing seminal parameters before and after treatment were carried out.

Results: The mean age of male partners was 36,11 ± 7,03 (range 18–59). Female partners were with a mean age of 32,7 ± 6,33 (range 18–53). The mean duration of infertility was 3,26 ± 2,69 years. An history or actual symptoms of STI was noted in 27,9% of female and in 19,9% of male. Both couple's element complained symptoms in 11,8%. In 10,3% of couples, at least one miscarriage occurred before our evaluation. Before the therapy, semen volume was normal in 86,8% and low in 10,3%. Iperviscosity was recorded in 59,6%. Sperm fluidity was considered as complete and incomplete in 91,2% and 8,8%, respectively. Leukocytospermia was found in 21,4% and agglutinations were present in 37,5%. The sperm count before the antibiotic treatment was 17,3 ± 14,4 million/ml and 52,34 ± 52,88 million total, in mean. Asthenospermia was present in 69,1% of patients. The rapid and slow motility were 11,9 ± 9,5% and 12,1 ± 6,4% in mean, respectively. After therapy, all parameter considered improved. The T-test showed all means differences significant ($p \leq 0.05$). A full term pregnancy was reached in 27,2%. Pregnancies were reached after treatment in a mean time of 3,7 months.

Conclusions: In case of suspected infective etiology of couple infertility, we believe possible to prescribe empirically antibiotic therapy with doxycycline, azythromycin and moxifloxacin, covering the most common STI pathogens. We need to increase the chance of natural pregnancy and decrease the need for invasive procedures, starting from an holistic couple evaluation.

SC7

The impact of non-thermal effects of electronic devices on male fertility: Monocentric observational retrospective study

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Introduction: The use of laptop can damage fertility through two not entirely clear mechanisms: thermal and non-thermal. The first concern the ability of PCs to overheat the male gonads. The non-thermal effects are characterized by changes in the seminal fluid following exposure to EMW (WI - FI). An increase in ROS production was observed with development of sperm membrane damage and upregulation of thermal shock proteins that could induce damage at the blood - testicular barrier and reduce sperm motility. Our study aimed to investigate an association between the use of laptop PC and their non-thermal effects and seminal fluid anomalies.

Materials and methods: This is a retrospective observational study. We have recruited 34 males from February to April 2019.

The patients had performed two spermograms at three months distance. The spermograms were analyzed according to the WHO 2010 criteria in a single laboratory with on-site collection.

Exclusion criteria:

- Excessive Alcohol consumption (>12 g/die);
- Smoking;
- Subjects with clinical varicocele;
- Subjects with previous testicular tumors.
- Patients who had performed previous spermograms.
- Patients who came into contact with heat sources >1 hours/die.
- BMI >30 kg/m².
- Patients who put their mobile phone in the front pockets of their pants for more than 1 hour a day.

Inclusion criteria:

- Age >18 years;
- Stable relationship with their partner > 3 months.
- Male patients using laptop with WI -FI internet connection.

All patients were given a medical history and an objective examination was carried out.

Results: We have recruited 34 males from February to April 2019. Patients were divided into two groups according to laptop usage. Patients who used the PC for >5 days/week and Laptop use >4 hours/

day were included in group A (17 patients); patients who did not meet these criteria were included in group B (17 patients). Main age of patients 29 ± 8.3 years. The volume of sperm fluids was $3.4 (\pm 1.3)$ in group A but in group B was $3.3 (\pm 1.9)$ ($p > 0.05$). The total sperm count in group A was $29.1 (\pm 21.4)$ million while in group B it was $48.2 (\pm 31.1)$ million ($p < 0.02$). Sperm count in group A was $12.5 (\pm 8.0)$ million/ml⁻¹ while in group B was $22.5 (\pm 19.9)$ million/ml⁻¹ ($p < 0.04$). The progressive motility (a+b) was in group A was $31.5\% (\pm 15.4)$ while in group B was $35.2\% (\pm 19.3)$ ($p > 0.05$). Furthermore, the percentage of morphologically normal spermatozoa in group A was $3.2\% (\pm 1.9)$ while in group B there was a percentage of morphologically normal spermatozoa of $8\% (\pm 4.5)$ ($p < 0.0001$).

Conclusions: It may be concluded, with the necessary precautions given the limitations of our study, that the use of the laptop and especially the non-thermal effects resulting from it can lead to a decrease in spermatozoa concentration and a change in the spermatozoa morphology. New controlled studies will be needed to investigate these issues of great interest today.

SC8

Diagnosis of Peyronie's disease and Shear Wave Elastosonography of the penis: New non-invasive method

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Introduction: The main objective of the study is to identify a possible relationship between penile rigidity and pain in erection and subsequent appearance of plaques typical of La Peyronie's disease. To this end, the use of Shear Wave Elastosonography of corpora cavernosum in clinical practice, was evaluated in order to demonstrate the presence of penile fibrosis (expressed at tissue level as stiffness) typical of the early stages of La Peyronie's disease in patients with pain in erection, and thus to undertake specific therapy.

Materials and methods: This was a prospective study. The following subjects were excluded from the study: diabetes, previous pelvic surgery, patients who had taken PDE5i less than three months ago, or who had previously been treated for La Peyronie's disease. The inclusion criteria were subjects with erectile pain, subjects with palpable or visible plaque on B Mode ultrasound. All patients underwent Elastosonography shear wave of the corpora cavernosa, filling in the VAS questionnaire regarding pain and ultrasound B - Mode.

Results: 85 patients were recruited within less than six months of the first visit. The results obtained reveal that the baseline VAS score correlates positively with the rigidity of the corpora cavernosa expressed in kPa (according to Young's module) obtained by Elastosonography shear wave ($p < 0.05$). There was no statistically significant correlation ($p = 0.09$) between the presence of hyperecogenic plaques on B-mode ultrasound and the VAS score. At 6 months, there was a statistically significant increase in the rigidity of both corpora cavernosa respect to baseline ($p < 0.05$) with a significant decrease in the VAS score with respect to baseline ($p < 0.04$). In addition, there was a positive correlation between patients with a score > 28 kPa (expressed as an average of both corpora cavernosa) and the appearance of hyperecogenic plaques on ultrasound B - mode ($p < 0.03$).

Conclusions: Shear wave Elastosonography of corpora cavernosa can be used in daily clinical practice to make an early and non-invasive diagnosis of La Peyronie's disease in order to undertake therapies aimed at decreasing the painful symptomatology since its onset, and to slow down the evolution of the disease.

SC9

Impact of extracorporeal shock wave therapy for erectile dysfunction and Peyronie's disease on hormonal and reproductive testicular function: Results from a randomized controlled trial

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Introduction: Extracorporeal shock wave therapy (ESWT) is an emerging treatment for erectile dysfunction (ED) and Peyronie's disease (PD). Concerns on safety of ESWT on testicular function raised from animal studies. To date, there is no data available regarding the effects of ESWT on human fertility and testosterone production. The aim of the present study is to evaluate the hormonal and reproductive testicular function in patients undergoing ESWT for ED or PD.

Materials and methods: We designed a randomized controlled trial (RCT) in which consecutive patients with ED or PD were enrolled. Men aged between 18 and 40, with normozoospermia and vasculogenic ED or acute phase of PD were included. Patients with infections or cancers in the treatment area, male accessory glands infections (MAGI), and non-suspend able anticoagulant therapy or coagulation disorders were excluded. Computer-based randomization (1:1) was used to assign subjects to group A (ESWT) or group B (no treatment). ESWT was performed with DUOLITH SD1 T-TOP (Storz Medical AG, Tägerwil, Switzerland) by a trained urologist. Two session per week for 3 weeks was performed in ED patients, while one session per week for 4 weeks was performed in PD patients. Each session included 3000 shock waves ($0.10\text{--}0.25$ mJ/mm², 4–6 Hz). Semen analysis and total serum testosterone concentration were assessed before and 3 months after ESWT in the group A. In the group B the same evaluations were performed at baseline and after 3 months. The reading and interpretation of the seminal exams was performed by an expert semiologist according to the WHO criteria (5th edition - 2010). All adverse events (AE) were recorded during the study period.

Results: A total of 60 patients were enrolled in the study (30 group A, 30 group B). No significant difference was found at baseline in seminal parameters and testosterone levels between the two groups. In the group A no significant difference in seminal volume, total sperm count, sperm concentration, total and progressive motility, and morphology was found ($p > 0.05$) after treatment, while a significant reduction in seminal pH (8.3 ± 0.2 vs. 8.0 ± 0.1 ; $p < 0.001$) was observed after. No significant difference in testosterone levels was recorded ($p = 0.584$) in the group A after ESWT. In the group B no significant difference in the semen parameters and in testosterone levels was detected ($p > 0.05$). No severe complication (Clavien-Dindo III-V) occurred.

Conclusions: ESWT in ED and PD patients does not seem affect hormonal and reproductive testicular function. Further RCTs with larger sample size and longer follow-up are needed to confirm our results.

SC10

miR-20a-5p expression as a potential non-invasive diagnostic biomarker in patients with non-obstructive azoospermia

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Introduction: Recently, alterations in the expression of specific microRNAs in semen have been linked to altered spermatogenesis suggesting their expression could be used as potential infertility