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Extracorporeal shock wave therapy (ESWT) : an easy applicable and effective therapy for chronic pelvic pain syndrome (CPPS)

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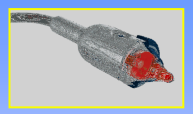
I. Introduction

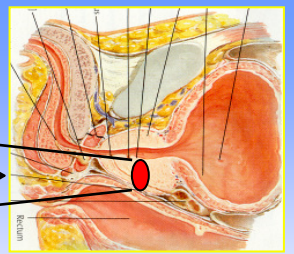
CPPS is considered to show an incidence between 1.5 – 10% among the male population all over the world. An actual estimation in the USA is about at least 5 Mio. urological consultations/year due to symptoms caused by CPPS. CPPS is accompanied by voiding disorders, erectile dysfunction and pain in perineum, testis, penis, bladder and back. Men who suffer from this condition are sometimes strongly handicapped in daily life, social contacts and sexuality, and their quality of life is often poor. The origin of CPPS is as well unknown as an efficient therapy is still missing.
The analgetic potency of shock waves (SW) of low energy density is well known from many orthopedic studies on chronic pain of soft tissue. Furthermore, there is clinical evidence that SW can relax muscles with chronic hypertension.
We evaluated in a multicenter study the efficacy of perineal application of focused shock wave application (ESWT) for pain relief of CPPS patients.

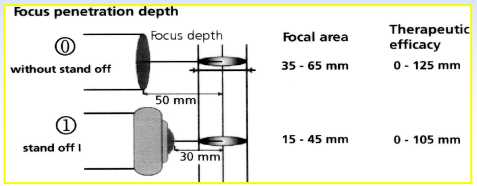
II. Patients and methods

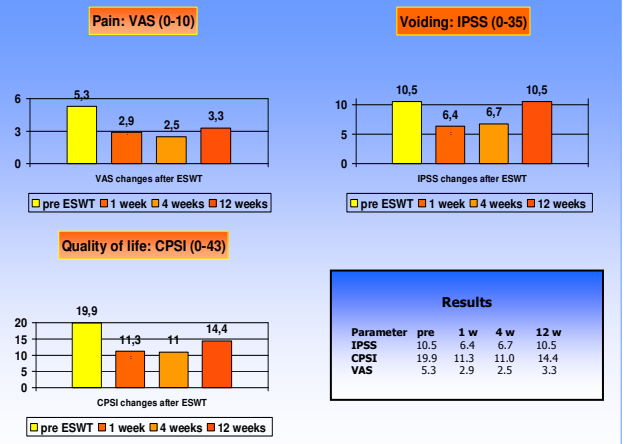
Patients with CPPS (prostatitis IIIb according to the NIH-NIDDK classification) lasting at least 3 months and no evidence of bacteria in urine and sperm were eligible for the study. Prostate cancer had to be ruled out clinically and serologically. Other treatments were excluded during the study period.
The patients received 1 ESWT treatment weekly (each 3000 impulses, energy density 0.11mJ/mm^2, frequency 3 Hz) for 4 weeks. SW were applicated by perineal approach in a supine position. The device used for the study was an focused electromagnetic SW device (Duolith SD1, Storz Medical, Kreuzlingen, Switzerland). The focus penetration depth was in the center of the focus 30 - 50 mm. Therefore, the SW focus could be placed into the prostate from the perineum without any positioning system. The focus position was changed intermittently in order to scan virtually the entire prostate gland and parts of the pelvic floor.
Follow up (FU) was done 1, 4 and 12 weeks after ESWT. Pain was evaluated by visual analogous scale (VAS, 0-10), micturition by international prostate symptom score (IPSS, 0-35), and specific complaints were investigated by the validated CPPS-specifically designed chronic prostatitis symptom index (NIH-CPSI, 0-43).



Perineal SW approach
(transducer positioning for intraprostatic focus)





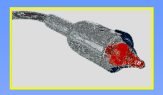


Results of perineal ESWT for CPPS treatment with Storz Duolith SD1

III. Results

20 patients (age 21-59 years, average 42.2ys) were included into the study (May to August, 2006). All patients completed the FU. The pre-therapeutic duration of the CPPS-related complaints was on average 7.7 months (3-24 ms). The ESWT treatments were well tolerated as outpatient sessions without anaesthesia, and side effects have not been seen at all. The duration of each ESWT session was 17 minutes.
Placement and positioning of the SW transducer were simple and secure due to the anatomic conditions and a fitting focus penetration depth. The use of an additional positioning system was not necessary at all.
The response rate of VAS and CPSI was initially 100%. VAS and CPSI even improved 4 weeks after ESWT and showed again a slight increase after 3 months but were still far away from the pre-treatment levels.
Interestingly, even the IPSS was seen to be markedly improved 1 and 4 weeks after ESWT treatment.

IV. Conclusions



Due to the lack of other working therapy options there's a growing importance of physical therapy for CPPS treatment. We demonstrated that ESWT of the prostate region can be a safe and effective treatment with remarkable release of symptoms. In particular due to pain reduction, the quality of life could be improved markedly, which is the most important issue for the majority of CPPS patients. The temporary improvement of IPSS was an interesting finding which will be pursued in future.
ESWT provided no restrictions or side effects and was therefore very well accepted by the patients. ESWT does not exclude any other therapy, the application needs no additional measurements, is simple and quick on an outpatient basis and because of that also time and cost effective. The SW device used for the study is easily to handle and provides quick and straightforward application. A placebo controlled study has now being initiated to evaluate objective response and optimal treatment schedule of this promising new method.