

ESWT for Chronic Pelvic Pain Syndrome

Extracorporeal Shock Wave Therapy as treatment option



Dr. Reinhold Zimmermann
Dept. of Urology & Andrology
Paracelsus Medical University
General Hospital Salzburg SALK
Salzburg (Austria)

According to the actual National Institute of Health classification, CPPS (category III b) is characterised by the lack of signs of infection in urine and sperm as well as by the specific symptoms. Routine diagnostic procedure is still debatable and the clinical diagnosis of CPPS is made in light of complaints, microbiological findings and exclusion of more severe relevant diseases.

Treatment options

No causal or standardised treatment is available at present. Various agents such as analgesics, antiphlogistics, antibiotics, α -receptor blockers and 5- α -reductase inhibitors are used individually and in various combinations. A certain group of patients may mostly benefit from alpha-blockers, whilst there is no rational basis for the widespread use of antibiotics. The lack of evidence or objective measurement of effectiveness for each of these treatments has to be emphasised. Side effects may predominate over possible treatment effects.

Physiotherapy, trigger point massage, electromagnetic treatment and acupuncture have already been used for CPPS. Based on orthopaedic pain syndromes, fractures, wound healing disorders and even cellulite which are



Dr. Zimmermann treats a CPPS patient with ESWT

There is an increasing incidence of chronic pelvic pain syndrome (CPPS) at least in the western world. The vast majority of male patients suffer from the abacterial form of chronic prostatitis or CPPS.

Recently, an incidence of almost 14% was found among more than 5,000 male urological outpatients. For instance, in the US millions of patients visit their physicians due to CPPS-related complaints. The disease reveals substantial morbidity comparable to that of Angina pectoris, Morbus Crohn or the status after heart attack.

Disease-typical complaints are pain sensations most commonly in the prostate, testes, groin, back, pelvic floor and supra-pubic region. Disturbances of micturition and erectile function can have a crucial diminishing effect on quality of life which may be even greater than the pain itself. Quality of life can be markedly restricted. The illness might influence social contacts and is probably linked to psychosomatic aspects.

The pathophysiology as well as the triggering facts are almost entirely unknown. This makes it even harder to define an effective therapy. Previous infections, pelvic floor hypertension, local chemical alterations and perfusion disturbances are under discussion. So far, it has not been possible to detect signs of active infection or bacterial pathogens. Neurobiological and psychiatric factors could play a further role.

successfully treated by low-energy Extracorporeal Shock Wave Therapy (ESWT), this therapy was also introduced in CPPS treatment. Additional arguments were that SWs could reduce passive muscle tone in stroke patients and induce reperfusion in ischemic dysfunctional myocardial areas.

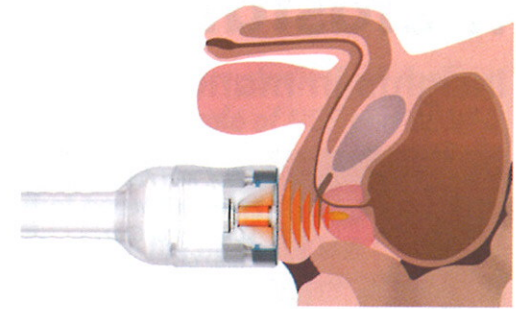
In a feasibility study, we could show that SWs are easily applicable by perineal approach without side effects, achieving significant improvement of CPPS-related symptoms, in particular with respect to pain.

Beforehand, prostate specific antigen (PSA) testing, digital rectal examination (DRE) and transrectal ultrasound (TRUS) of the prostate have been performed prior to study enrolment in order to rule out other pathologies. Side effects were very thoroughly investigated when commencing ESWT to pelvic floor, and were definitely excluded by a large variety of highly reliable clinical and imaging methods (lab analysis, TRUS, MRI).

Following these first encouraging results a placebo-controlled double-blinded randomised trial including 60 patients (30 each group verum/placebo) could be successfully performed. According to the study protocol no other treatments were permitted during study and follow up (FU) period.

All patients were randomised prior to treatment. The verum patients received 1 perineally applied ESWT treatment weekly (3000 impulses each, maximum total energy flow density 0.25 mJ/mm², frequency 4 Hz) for 4 weeks.

The device used for the study was a standard electromagnetic shock wave unit, DUOLITH® SD1, with a focused shock wave source. The position of the shock wave transducer was changed after every 500 impulses in order to scan virtually the entire prostatic and pelvic floor region. The focus geometry of the transducer ensured that prostatic region could not be failed to strike when placing the transducer perineally.



Perineal ESWT

Side effects

For placebo treatment spreading of SW was stopped definitely within the transducer by an integrated membrane.

FU included clinical examinations and the questionnaire-based re-evaluation of quality of life and complaints. Recently, the one-year FU could be completed showing extremely encouraging results. In this context it has to be noted that only a small minority of investigations on CPPS extend to this FU duration.

An inexpensive application

The now available long term FU verifies impressively the value of ESWT for treating CPPS. Very few investigations on this topic have comparable FU and results data. ESWT may in particular be interesting due to easy and inexpensive application, very little need of staff and the possibility for repeating the treatment at any time.

In terms of healthcare costs, ESWT could be extraordinarily attractive because patients can receive it "by the way" – meaning there is no need for interruption of employment or hospitalisation. Moreover, side effects of ESWT are limited, at least with the current application schemes.

Sunday, 18 April 2010
15.45 - 17.15: Session 40
Oral -Poster Presentation