

General magnetic therapy in peri-operative medical rehabilitation of patients with benign prostatic hyperplasia

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ABSTRACT

This study aimed to assess efficacy and safety data from pilot trials of the radial extracorporeal shock wave therapy (rESWT) to treat benign prostatic hyperplasia (BPH) refractory to current medical therapy. A total of 29 men with lower urinary tract symptoms (LUTS) suggestive of BPH who had responded poorly to medical therapy for at least 6 months and were poor surgical candidates were enrolled. Each participant was treated with rESWT once a week for 8 weeks, each by 2000 impulses at 2.0 bar and 10 hertz of frequency. International Prostate Symptom Score (IPSS), quality of life (QoL), and International Index of Erectile Function-5 (IIEF-5) were evaluated before treatment, after the fourth and eighth rESWT, and 3 months after the end of treatment. Peak urinary flow (Q_{max}) and postvoid residual (PVR) were assessed. Safety was also documented. Statistically significant clinical improvements were reported for IPSS, QoL, and IIEF-5 after treatment, and those were sustained until 3 months follow-up. Q_{max} and PVR improved evidently at 8 weeks with a 63% and 70% improvement, respectively. The only adverse event was the occasional perineum pain or discomfort, which usually disappeared within 3 days. The rESWT may be an effective, safe, and noninvasive treatment for symptomatic BPH in selected patients whose medical treatment has faced failure and are poor surgical candidates.



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1. Introduction

Clinical benign prostatic hyperplasia (BPH) is one of the most common diseases in aging men which can lead to lower urinary tract symptoms (LUTS). The incidence of BPH rises markedly with increased age. Autopsy studies have observed a histological prevalence of 8%, 50%, and 80% in the fourth, sixth, and ninth decades of life, respectively [1]. BPH has already affected the health physically and emotionally, associated with great disease burden. Multiple treatment modalities for BPH have arisen, including lifestyle modifications, α -blockers (α_1 - adrenoceptor antagonists), 5α -reductase inhibitors, phytochemicals, and BPH-related surgery [2]. Pharmacotherapy is usually indicated for BPH, but many patients have inadequate efficacy, not to mention side effects such as sexual dysfunction, urinary retention, and orthostatic

hypotension [3]. Surgery is indicated for persistent LUTS despite conservative therapies, or BPH-related comorbidities, such as urinary retention [4]. The surgical approaches and less invasive procedures have varying degrees of side effects and complications, such as ejaculatory dysfunction, erectile dysfunction (ED), urethral strictures, and urinary incontinence [4], [6]. Thus, exploration of a more effective and safe treatment strategy for BPH is a significant challenge for clinicians, and physical therapy is getting more and more attention in functional urology [5].

2. Discussion

This study showed that the 8 weeks of rESWT was well tolerated and offered continuous improvement in clinical outcomes of BPH participants from 4 weeks to 8 weeks, and that was sustained until 3 months follow-up. The only adverse event was the slight perineum pain or discomfort occasionally caused by rESWT, which usually disappeared within 3 days. Unlike other therapies that may cause side effects of sexual dysfunction, the IIEF of the treated men with ED significantly improved at 4 weeks and remained increased at the 3-month follow-up. There is almost no literature on rESWT of BPH. BPH is an enlargement of the prostate gland due to progressive hyperplasia of the stromal and glandular cells, including smooth muscle and epithelial cell, as well as collagen fibrils proliferation and calcification in the prostate transition zone. It is reported that smooth muscle spasm is a potential pathological mechanism of LUTS caused by BHP. Treatment with α blockers may be helpful, but side effects such as fatigue, dizziness, headache and postural hypotension may preclude the use of these agents in the elderly, especially in those treated with other antihypertensive medications [4]. Medical therapy with a 5 α reductase inhibitor requires a longer duration of treatment to reach the maximal effect.

3. References

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