Oral Presentation

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Post-Finasteride Induced Erectile Dysfunction: Diagnosis by Grayscale/Doppler Ultrasound and Disease Modification Treatment with Erect Penile Extracorporeal Shockwave Therapy

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Introduction

Finasteride (1 mg), a 5-alpha reductase inhibitor that lowers dihydrotestosterone, is approved for treatment of male pattern hair loss, androgenic alopecia. Persistent sexual side effects have been reported following discontinuation of finasteride, including erectile dysfunction (ED). It has been postulated that post-finasteride induced ED is, in part, due to cavernosal smooth muscle cell apoptosis as a sequela of low serum dihydrotestosterone. Khera et al (2020) reported persistent penile vascular changes in 25 men after discontinuation of finasteride. The purpose of this study was to replicate Khera's findings in a larger population and examine treatment of those patients with post-finasteride induced ED using ESWT.

Material & Method (please include the kind of device you are using)

A chart review (2015-2020) was performed. Our patient population had normal sexual function prior to finasteride use and experienced changes within 6 months of discontinuation of finasteride which persisted > 6 months. Information collected included sexual function history, current symptoms, validated instruments, hormone blood test values, data from grayscale/Doppler ultrasound during pharmacological erection (15.4 MHz probe; Aixplorer® Ultrasound) and data from erect penile ESWT treatment with UroGold 100 MTS.

Results

91 patients (median age 39) met inclusion criteria, 9.6% of men evaluated during this period. The most common symptom was ED in 95% (87/91). Mean IIEF-EF score was 14 ± 8.63 (n = 81), consistent with severe (43%), mild-moderate (23%), moderate (12%), and mild (10%) ED. Of the 57 who underwent grayscale/Doppler ultrasound, 77% exhibited abnormal erectile tissue inhomogeneity. Mean cavernosal artery PSV/EDV values (n = 61) were left 30.4 ± 18.02/0.76 ± 2.86 cm/sec and right 29.63 ± 14.97/0.60 ± 1.89 cm/sec, respectively. These data support that erectile tissue damage occurs in the corpora cavernosa after discontinuation of finasteride. A total of 6 LiSWT were performed on the erect penis (erection hardness 3–4/4) in 18 (32%) of these men as a disease modification management option for their post-finasteride induced ED. A total of 3600 shocks per treatment, energy flux density 0.13 mJ/mm2, 3 Hz, membrane pressure 1 using UroGold 100 MTS. After completion of the 6 treatment cycle of ESWT, grayscale/Doppler ultrasound was repeated. 58% exhibited improved erectile tissue homogeneity, (61%) patients had PSV increase, (32%) had EDV decrease and 65% reported improvement in Patient Global Impression of Improvement.

Discussion

In a large series of men with persistent ED after discontinuation of finasteride, ESWT has been shown to provide improvement in erectile tissue homogeneity, PSV and EDV, therefore improving the quality of erection in this otherwise difficult to treat population men.

Technology: Focused Shockwave

Device and Company: Urogold 100, MTS

COI: No conflict of interest