

Penile Traction Therapy

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Introduction

The basic principle of cellular mitosis behind the device is a documented response to human tissue to physical traction. Traction force applied upon tissue results in an adaptation reaction at a structural level which there by results in the expansion of the tissues. This principle has successfully been applied for some time for different medical purposes, among which the treatment of skin lesion, long bone growth abnormalities, dupuytren's contracture. It is possible, therefore, that the two conditions may share a common underlying pathophysiology, and therefore potentially respond to similar treatment modalities. It is well documented that the use of mechanical traction and tissue expansion therapy results in alteration of connective tissue by cellular proliferation and expansion of the extracellular matrix [1].

The Evidence for Penile Traction Therapy

Scropo study

One of the earliest reports into the use of PTT in patients with PD was presented at the 4th Annual European Society for Sexual and Impotence Research (ESSIR) meeting in 2001 on a small study of eight men. The inclusion criteria for the study involved all men with minimum 3 months of PD without concomitant ED and the men were instructed to use the traction device for at least 4 h a day for a total of 3–6 months. The authors reported an increase in the mean penile length of 4.1 mm (100.5 mm before and 104.6 mm after PTT) ($p > 0.05$) and decrease in mean erect penile curvature (EPC) of 14° (from 34° to 20°) ($p < 0.05$) in this small case series. [2].

Colpi study

The same group also presented their later findings on the use of PTT at the ESSIR meeting in the following year. Daily use of a penile traction device for 6 h a day in men with PD and severe penile retraction was associated with a longer stretched penile length (SPL) (average 0.8 cm gain) [3].

Ideal patient characteristics for PTT [4]

Men with acute phase of PD or short penises

Greater EPC.

Absence of calcified Peyronie's plaque.

Acceptable penile girth or absence of hour-glass penile deformity.

Normal erectile function.

Highly motivated and compliant use (minimum 4-6 hours of use per day, for 3-6 months, lengthen the rods 0.5 cm every 2 weeks).

Addition of multimodal treatment strategy (such as oral PDE5 inhibitors and intra-lesional injections).

Role of Penile Extenders

Penile length preservation: Penile shortening, a bothersome symptom of Peyronie's disease, cannot be addressed as an end point by any medical treatment. Restoration of penile lengthening would involve a complete reversal of the fibrotic process, a finding that has never been proved to occur with any specific treatment modality in Peyronie's disease. Besides, it is usually significantly worsened by surgery, no matter which procedure is employed, leading to a high dissatisfaction rate [5].

The Use of a Vacuum Erectile Device for Penile Length Preservation

VED functions through the creation of a vacuum around the penis, which leads to an erection by engorgement of penile tissue. The devices are easy to use, widely available, have few contraindications and require no testing prior to use. While its main role is in penile erection, the role of VED use for penile rehabilitation is questionable because theoretically it can potentially cause corporal fibrosis, ischemia, acidosis, and lack of smooth muscle relaxation leading to penile fibrosis [6].

Aghamir and colleagues reported that 6 months after VED use, there was a nonstatistically significant increase in mean penile length from 7.6 to 7.9 cm [7].

Raheem and colleagues found a clinically and statistically significant improvement in penile length (35% of men had a mean increased SPL of 0.5 cm), angle of curvature (67% of patients

with reduction of 5–25°) and pain after 12 weeks of VED corporal fibrosis, ischemia, acidosis, and lack of smooth muscle relaxation leading to penile fibrosis. However, there was no significant change in the sexual and erectile functions [8].

Improvement in Penile Curvature

In Gontero study population, the penile extender produced an improvement in penile curvature of clinical interest when compared with that achieved with other commonly used treatment modalities such as intralesional injections. However, results were achieved in a selected population with stable disease, a condition where the existing treatment options are less likely to be effective [9].

Negligible Side Effects

The device caused negligible side effects. Overall results were self-reported as “acceptable,” making this minimally invasive treatment modality a potential new treatment option in selected Peyronie’s disease patients [1].

Conclusion

Penile Traction Therapy is a safe effective modality for treating penile curvatures.

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