

Under research:

MTS SparkWaves™ in penis enhancement

The concept of SparkWave™ therapy-assisted penile tissue hyperplasia: A non-invasive alternative to augmentation phalloplasty

The intention

Augmentation phalloplasty surgery, also known as “penis enhancement”, is therapeutically performed in patients with small penises, penile dysmorphic disorder (PDD) or micropallus (< 7.5 cm). There are multiple aetiologies, including congenital and endocrinological causes as well as pathological conditions, such as penile lichen sclerosus, trauma and genital cancer. The resulting reduction in functional penile length can lead to considerable psychosexual morbidity ¹. Therefore, phalloplasty is done in order to increase penile length and girth, but this procedure is nonstandard, still investigational and only few studies have been published so far. Due to the high risk of unwanted complications, namely infection, penile deformity, paradoxical penile shortening, disagreeable scarring, granuloma formation, migration of injected material, and sexual dysfunction, the use of cosmetic surgery to enlarge the penis remains highly controversial and should be avoided wherever possible ².

SparkWave™ therapy (SW™T) becomes established as a first line therapy for vasculogenic erectile dysfunction (ED), chronic pelvic pain (CPP) or Peyronie’s disease (PD) in several medical institutions and has proven successful in recent research studies ^{3 4 5}. The angiogenic and regenerative effect of SW™T is based on the activation of stem cells and growth factors like eNOS, VEGF and PCNA, leading to tissue restoration and nerve generation ^{6 7}. Thus, SW™T represents an innovative, non-invasive treatment perspective to enlarge the penile tissue without serious impacts for the patients as in case of phalloplasty surgery. Furthermore, SW™T will not only be utilized as a real alternative to plastic surgery but will also improve the quality of erection by enhancing the blood perfusion and functionality of erectile tissue, thereby highly increasing patient satisfaction rates.

The mechanism

The mechanical expansion by the penile traction device and the hydropump stretches the penis and results in small microtears in the tissue. Cellular regeneration mechanisms are activated that will heal these small injuries via cell proliferation and lead to penile tissue hyperplasia. The duration and completion of the repair process is dependent on angiogenesis, cell recruitment and a supportive blood circulation in the affected tissue.

SW™T of the expanded penis will induce vascularization and boost regeneration through induction of stem cell invasion and cell division, thereby ensuring and accelerating restoration and enlargement of the erectile tissue ⁸.

Angiogenesis and regeneration needs frequent vasodilation of the capillaries in the penile tissue in order to achieve an optimal blood supply. For this purpose, an excess of nitric oxide (NO) is provided which is produced solely from the proteinogenic amino acid L-arginine by the enzymatic action of the endothelial nitric oxide synthase (eNOS). As medical standard, L-citrulline supplementation is applied to ensure a constant bioavailability of L-arginine and NO which results in a lasting vasodilation in the regenerating tissue.

The concept

The combination of penile traction, adjunctive SW™T and L-citrulline supplementation causes angiogenesis, cell proliferation and stem cell activation in the penile tissue and leads to a permanent increase of penile length and girth without any damage to erectile function.

MD Mirza Niaz Zaman, a pioneer in the field of “therapeutic sexopathoandrology” and specialist for ED, premature ejaculation, low libido, sexual psychotherapy and non-invasive penile augmentation, conducted preliminary tests of this innovative therapeutic treatment option for patients suffering from PDD or micropenis. We provide the combinational treatment protocol to experts in the medical field and support further investigations together with the inventor Mirza Niaz Zaman, MD at Kharkiv National Medical University (KNMU), Ukraine.

The perspectives

SWTMT-assisted penile tissue hyperplasia can be considered as a new, non-invasive alternative for augmentation phalloplasty surgery and its potentiality, will be assessed by clinical trials in near future. Furthermore, SWTMT can be utilized in order to increase the survival of autografts such as dermal fat grafts (DFG) and free fat grafts (FFG) which are widely used in penile augmentation surgery and will be analyzed in additional clinical studies as well.

If you are interested this research project or want to manage or participate in a clinical trial please feel free to directly contact us for further discussion.

References

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