INTRODUCTION

Between childbirth and menopause, the female vagina and surrounding tissues go through various changes leading to a well-defined set of conditions that include atrophic vaginitis, stress urinary incontinence (SUI), different manifestations of sexual dysfunction and more[1]. Together with the natural process of aging and childbirth, vulvar and vaginal atrophy is a relatively common condition symptomatically affecting approximately 50% of all postmenopausal women worldwide[2]. In addition, unpleasant aesthetic appearance of vulva is an additional factor that extends negative psychological response, embarrassment, anxiety, and lack of confidence[3].

Vaginal rejuvenation is an umbrella term used to describe a range of medical and functional procedures that correct and restore the optimal structure of the vagina and surrounding tissues which include traditional vaginal prolapse procedures[4] as well as “cosmetic vulvar” procedures which include labiaplasty, labia minora reduction, excess or redundant clitoral prepuce reduction, labia majora reduction or augmentation, labia divergence repair, perineal skin reduction and mons pubis reduction[5]. However, there is a risk of adverse effects resulting from surgery procedures. Complications such as bleeding, infection, iatrogenic asymmetry, poor wound healing and overcorrection might require medical intervention[6]. Therefore, recent surgical procedures and systemic and topical treatments have been supplemented with new, non-invasive, energy based treatment systems, which is a welcome development for the many women wary of surgery due to the risks, expenses, healing pains and downtime involved. These devices have opened a new market for nonsurgical vulvovaginal correction procedures that can be performed by a wider range of practitioners including dermatologists. Among the new modalities being applied to feminine rejuvenation include lasers and radiofrequency (RF)-based energy devices[7]. However up to date, all these energy based systems designed to treat only few symptoms.

The Viora’s ReVive Fusion treatment targets all elements of labial (majora and for minora) aging with highly predictable and consistent results (Fig. 1) without compromising patient’s safety and comfort. The scientific approach of the ReVive Fusion protocol was based on synergistic phenomena which in contrary to “typical” combination protocols where each technology targets different tissue and responses, the Fusion approach allows a more comprehensive clinical outcome since different technologies are “working together” in synergy, enhancing the effect of each other. Since in synergy the “whole is greater than the simple sum of its parts”, the ReVive Fusion treatment provides results with high effectiveness and shorter treatment courses.

ReVive Fusion Protocol

The ReVive fusion protocol involves three of Viora’s propriety technologies: CORE™, SVC™ and Ionwave™. Thanks to the synergy effect achieved in the Fusion treatment, the clinical outcome enables 25% increase in physician’s subjective improvement evaluation score, compared to the mono-therapy approach, as well as a significant reduction in the number of sessions, from 6-8 in average to 3 sessions (data not shown).

STEP 1

The treatment starts with V-ST Handpiece with integrated CORE™ Technology. The CORE™ Technology emits RF energy at three different RF frequencies: 0.8, 1.7 and 2.45 MHz as well as a multi-channel mode that combines all three frequencies together. The V-ST handpiece produces RF energy fluency of up to 130J/cm3 with integrated contact cooling mechanism that cools the electrodes down to 6°C[8].

In the ReVive Fusion treatment, thanks to CORE™ Technology the RF energy is accurately delivered to the sensitive labial tissue using the highest RF frequency (2.45 MHz) to ensure a more superficial RF penetration to produce fibroblast stimulation and collagen remodeling. The protocol uses Mode III (2.45 MHz RF frequency) for both labia majora and minora using single use hygienic tips (Fig. 2) with 6 passes on each side (Fig. 3). This step lasts up to 15 minutes without any anesthesia.

STEP 2

After fibroblast stimulation and collagen remodeling the labial skin rejuvenation and resurfacing is achieved via a second generation among fractional RF systems, the SVC™ Technology, available in Viora’s V-FR Handpiece[9]. The SVC™ Technology for the combination of Switching, Vacuum and Cooling mechanisms. The Switching mechanism controls RF depth penetration reflected via three programs: Shallow, Medium and Deep. While the Vacuum function ensures proper coupling of electrodes to the skin, minimizing the risk of epidermal burns, reduces pain levels and causes more equal, consistent and symmetrical injury points. The Cooling mechanism protects the superficial skin layers and reduces pain levels.

The presented control of biological response in SVC™ technology achieved via control of pulse duration. Using 20-40 ms pulse duration, ensures a fractional ablative response of the epidermis and...
some coagulative response of the dermal layer. The control of depth penetration with SVC™ Medium program ensures precise fractional RF delivery in the gentle labia area. The working technique of this step is with a row method (approximately 1-2 rows on each side), while the labia Minora area can be treated from both sides (Fig. 4). This step lasts up to 15 minutes and if needed a topical anesthetic material can be applied on the entire treatment area.

Figure 4: V-FR treatment on A) Labia Majora and B) Labia Minora

### STEP 3

The final step in the sensitive area treatment is completed with Ionwave™ Technology [10] using the ReVive ampoule that was designed to enhance collagen synthesis, dermal volumizing and blood microcirculation. Patients suffering from hyperpigmentation in the labia area can also enjoy the added value of the Viora’s Bright ampoule to establish even skin tone or to prevent PIH (post inflammatory hyperpigmentation) following the fractional RF treatment among patients with high tendency (such as Asian or dark skin patients).

**ReVive Fusion Treatment Course**

In contrary to a mono-therapy approach where an average 6-8 sessions are required, the ReVive Fusion treatment course stands on average 3 sessions (although treatments can range between 4-6 sessions). The treatment can be provided every 4-6 weeks. Treatment course concludes when results are satisfactory to the patient or according to the operator’s discretion. The recommended single treatment maintenance session is every 6-12 months or according to individual results.

**Discussion and Summary**

External attractiveness, including the intimate zone, and the normal functioning of the genitals are an integral part of every woman’s physical, psychological and sexual health. For various reasons, such as injury, childbirth, aging processes, body weight changes, the female genitalia can undergo external changes, which a woman is not always capable of accepting and can cause both physical and psychological discomfort.

The results of the use of RF energy for the purpose of correcting changes in the external genital organs in women were first published in 2013 [11]. Later, in 2014, Dr. Stephen A. Foley presented a procedure protocol with impressive results of CORE™ Technology during labial correction [12]. Relying on this experience Viora has developed the Fusion protocol, where both skin resurfacing as well as rejuvenation were achieved thanks to the fractional RF modality (SVC™ Technology). The synergy effect between the bi-polar RF energy (achieved via CORE™ Technology) and fractional RF technology (achieved via SVC™ technology) manifested via the precise order between them, since heating of the dermal layers with bi-polar RF increases skin conductivity [13], hence the following fractional RF pulse can be applied with reduced energy level, thereby reducing patients' pain levels and post-operative complications or side effects. Moreover, the synergy approach also manifested by supplying necessary biochemical ingredients following energy stimulation (Post V-ST and V-FR) since neo-collagenases and skin remodeling requires patient’s natural reservoir of building blocks. If the patient’s age is relatively mature, this natural reservoir is usually reduced or limited, and submission of peptides and other biochemical ingredients, via Viora’s Ionwave™ Technology is essential for success of the entire treatment.

**Advantages of ReVive Protocol**

Many patients looking for correction of labia majora and minora are not ready to take such drastic measures as surgical intervention or have contraindications for that. Application of non-surgical labial correction with Viora’s ReVive Fusion protocol is able to provide women a more youthful appearance (Figs. 5-6), the joy of sexual pleasure, and a feeling of attractiveness and self-confidence. Correction of the labia with the use of ReVive is an effective, affordable and, most importantly, a safe way to solve such a delicate but important problem for many women.

Figure 5: A 56 year old female before (left) and after 4 ReVive Fusion sessions (right). Results show a noticeable improvement in lax, sagging skin on both labia majora and minora.

Figure 6: A 54 year female before (left) and after 1 ReVive Fusion session (right). Results show a noticeable improvement in lax, sagging skin on both labia majora and minora.

The main advantages of the ReVive Fusion Treatment are listed below:

- **Non-** to minimally invasive
- The safety of the procedure
- Minimal discomfort
- Limited downtime (1-5 days)
- No hospitalization is required
- The sensitivity of the genital organs is not disturbed
- An affordable alternative to surgical labiaplasty

**REFERENCES:**