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Clitoral Augmentation With Hyaluronic Acid: ELLAS Female Protocol For Optimizing Sexual Arousal, Increasing Lubrication, And Intimate Comfort Technique

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Abstract
This study describes the ELLAS Female Protocol, a minimally invasive approach that uses hyaluronic acid filler in the clitoral complex to optimize female sexual arousal, improve vaginal lubrication, and promote greater intimate comfort. The protocol is based on an anatomical and functional understanding of the clitoral complex, a highly innervated and vascularized structure essential for female sexual response.
The aim of this study was to evaluate the safety, clinical applicability, and potential functional benefits of controlled hyaluronic acid application in the clitoral region, aiming to restore volume, improve local vascular response, and enhance sensory sensitivity, especially in women with complaints of decreased arousal, vaginal dryness, discomfort during intercourse, or changes related to aging and menopause.
The methodology included the application of cross-linked hyaluronic acid in small quantities, using a micro-deposit technique in a safe superficial plane, respecting the neural and vascular anatomy of the region. Participants were selected based on specific safety criteria, excluding conditions that could increase the risk of complications. All patients underwent prior clinical evaluation, informed consent, and post-procedure follow-up.
In the discussion, it was observed that hyaluronic acid has biocompatible, moisturizing, and biostimulating properties, potentially contributing to improved lubrication, increased tissue elasticity, and greater comfort during sexual activity, as described in the literature on genital rejuvenation and treatments for vulvovaginal atrophy. Previous studies demonstrate that volumetric restoration and improved tissue hydration can enhance clitoral erectile response and sensory perception, positively impacting the quality of female sexual life.
It is concluded that the ELLAS Protocol represents a promising therapeutic approach in the area of female intimate health, with the potential to improve functional parameters related to arousal and sexual comfort. However, studies with a larger number of participants and long-term follow-up are necessary to confirm the efficacy, safety, and reproducibility of the method.

Key Word*: Hyaluronic acid, female sexual health, clitoral complex, vaginal lubrication, intimate rejuvenation, female sexual function.*

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I. Introduction

Female sexuality is an integrated expression of anatomy, sensitivity, vascularization, neurofunctionality, and emotional well-being. At the center of this response is the clitoris, an organ exclusively dedicated to pleasure, whose function can be impacted by hormonal changes, aging, childbirth, surgical procedures, medication use, and physiological changes throughout a woman's life.

Among the most important anatomical elements for sexual pleasure is the clitoral complex, a highly innervated and responsive structure to arousal, composed of more than 8,000 nerve endings (O'Connell et al., 2008; Puppo & Gruenwald, 2015).

The ELLAS Protocol arises from the modern understanding of the three-dimensional anatomy of the clitoris, recognizing the clitoral bud as part of a highly innervated and vascularized erectile complex, essential for the female sexual and orgasmic response.

During sexual stimulation, arousal promotes local vasodilation, increased blood flow, and clitoral turgor, which is essential for vaginal lubrication and the perception of pleasure (Goldstein et al., 2018). Any structural alteration such as clitoral hood laxity, reduced volume of the corpora cavernosa, decreased clitoral sensitivity, reduced orgasmic intensity, alterations in tissue trophism and hydration (common in hormonal dysfunctions and menopause), negative impact on self-perception of sexuality, or vulvar atrophy can compromise female erectile

function, hindering sexual response and reducing satisfaction during sexual intercourse, compromising lubrication and consequently female orgasm (Leiblum, 2010; Burri & Spector, 2011).

With the advancement of intimate aesthetic technologies, it has become possible to therapeutically treat the clitoral complex through minimally invasive approaches that aim to restore volume, vascularization, and sensitivity. Among these, the use of hyaluronic acid (HA) stands out. This biocompatible and reabsorbable substance is widely used for tissue biostimulation, hydration, and functional filling (Salvatore et al., 2016; Gaspar & Mailland, 2018).

Clitoral filling with hyaluronic acid, a technique described in the ELLAS Female Protocol, proposes an innovation in the field of intimate harmonization: acting on the increase and remodeling of the clitoral base to favor arousal, sexual stimulation, and comfort during sexual intercourse or female sensory stimulation. The Protocol does not promise specific results such as guaranteed orgasm. It aims to create favorable anatomical and functional conditions, integrating into a comprehensive approach to female sexual health, which includes hormonal, emotional, and relational factors.

The technique aims to:

Improve natural lubrication, facilitating the arousal phase and reducing vaginal friction;

To increase the sensitivity of the clitoral button through indirect physiological compression of Meissner and Pacini receptors;

To correct morphological alterations, such as clitoral prepuce laxity or hypoplasia of the corpora cavernosa;

To reduce fissures and discomfort resulting from vaginal dryness or vulvar atrophy by increasing female arousal and lubrication;

Complaints of reduced clitoral sensitivity and alterations in orgasmic response;

Female sexual dysfunctions as a complementary approach;

Women seeking improved intimate sensory perception and quality of life.

From an anatomical point of view, the clitoral region and its hood should be routinely evaluated during women's health and intimate aesthetic consultations. Clitoral hood laxity or shortening and formation of clitoral phimosis can partially obscure the anatomical button, decreasing exposure and stimulation during the pre-excitatory phase, which reduces the pleasure response and interferes with the natural lubrication essential for the comfort of female sexual intercourse (O'Connell & Sanjeevan, 2018; Berman et al., 2014).

Furthermore, recent studies demonstrate that preserving the functional integrity of the clitoris is fundamental to preventing female clitoral dysfunction, a clinical term used to describe the dysfunction of the erectile and sensory response of the clitoris (Puppo, 2020). Anatomical monitoring of this region and correction of structural factors, such as hood retraction or local volumetric loss, represent effective measures for prevention and rehabilitation of female sexual function.

Thus, the ELLAS Protocol presents an innovative and scientifically based proposal, uniting functional anatomy, aesthetics, and healthy sexuality. Controlled clitoral filling with hyaluronic acid provides results that transcend aesthetics, acting on the physiological aspects of sexual arousal and lubrication, and restoring the woman's intimate well-being.

II. Discussion

The use of hyaluronic acid in female sexual health treatments stands out as a significant innovation by combining aesthetic effects.

Hyaluronic acid is a bio-stimulating and functional component. According to Salvatore et al. (2016), hyaluronic acid contributes to improved hydration of genital tissues, a crucial factor for erectile and clitoral sensory response. This benefit is especially relevant when considering the importance of lubrication in the female sexual experience. The biostimulation provided by hyaluronic acid not only increases lubrication but also reduces discomfort associated with vaginal dryness, as explained by Gaspar and Mailland (2018).

A systematic review by Buzzaccarini (2020) reaffirms that the application of hyaluronic acid to the vulva and vagina effectively treats atrophy inherent to post-menopause, addressing one of the most prevalent concerns and potentially being associated with hormone replacement therapies for estrogen and progesterone. This minimally invasive approach ensures an improvement in the quality of life of patients, underlining the safety and efficacy of the procedure.

Studies examining the vulvar and vaginal administration of hyaluronic acid, as seen in systematic reviews (Buzzaccarini et al., 2020), emphasize that the approaches are highly adaptable and safe for a wide range of clinical applications. This adaptability is critical to meeting the diverse needs of patients, including those beyond aesthetic concerns.

Current literature reinforces that the application of hyaluronic acid not only fills a gap in the treatment of menopausal symptoms, such as clitoral hypotrophy, but also represents an effective treatment strategy for other female sexual dysfunctions. As Salvatore et al. (2016) and Gaspar and Mailland (2018) point out, precision in

maintaining the physical and chemical properties of the acid is essential to maximize therapeutic results, increasing local blood vascularization and regenerating innervation with increased local sensitivity, allowing for more effective interventions.

III. Methodology

The study included female participants aged 30 to 50 years, chosen based on specific inclusion criteria to minimize known risks of complications. Contraindications for the use of hyaluronic acid (HA) include known hypersensitivity to the product, history of severe allergies, presence of active infections in the application area, pregnancy, breastfeeding, or autoimmune diseases, as described in the literature.

All procedures were performed in a well-equipped clinic, following strict safety and hygiene protocols. Patients were positioned on a stretcher with a backrest inclination to ensure comfort and safety throughout the process. To maintain an aseptic environment, professionals wore disposable gloves, caps, gowns, and masks.

Before the procedure, each participant completed an anamnesis questionnaire. This pre-procedure examination was essential to collect comprehensive data on medical history, allergies, and other conditions that could impact the efficacy or safety of the treatment. This pre-selection process helped identify any potential contraindications not previously declared. All study participants underwent a physical evaluation and presented with an anamnesis and anatomical presentation using a mirror for self-examination conducted by a healthcare professional.

The technique used employed hyaluronic acid with a 27G needle, administering a precise volume of 0.2ml to 0.3ml per injection. The focus was on volumization, using a medium- to high-density product to ensure efficiency without compromising patient comfort. The choice of product and needle was guided by the safety and efficacy guidelines highlighted in the study by Signorini et al. (2015), which discusses the management of potential complications and how to avoid them.

All participants signed informed consent forms, in accordance with the ethical standards of clinical research. The consent not only informed the participants about the objectives of the study, but also about possible risks and the management of complications.

IV. Applied Anatomical Basis

The protocol is based on the understanding that:
The clitoral button is the visible portion of a complex erectile organ.

There is an intimate relationship between:
- dorsal nerve of the clitoris
- clitoral vascularization
- underlying erectile tissue

Any intervention must:
- preserve neural integrity
- avoid vascular compression (observe vascularization of the area post-procedure)
- respect superficial and safe anatomical planes described in the technique.

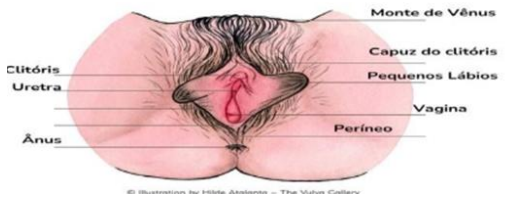

Figure 1: Anatomy of the female intimate region.

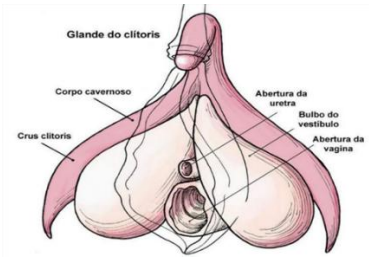

Figure 2: Anatomy of the female intimate region.

Figure 3;4.5: anatomical assessment.

Figure 6; 7; 8: anatomical assessment.

Anesthetic Technique

Figure 9: relating to the local anesthesia method using cooling.

V. Recommended Product

Cross-linked hyaluronic acid
With properties:
- high biocompatibility
- good tissue integration
- low expansive effect

Preference for products indicated for delicate and functional areas

Figure 10: Sequential figure showing application and volumization of the clitoral point with 0.3ml of 27G hyaluronic acid.

Anatomical plan and technical concept
Application in a safe superficial plane, respecting:
the clitoral glans
the path of the dorsal nerve
Microdepot technique, with:
reduced volumes
homogeneous distribution
The objective is functional support and hydration, not projection.
(Technical details of execution should be taught exclusively in hands-on training)
Post-procedure care
Avoid sexual activity for 48–72 hours
Avoid local pressure and manipulation
Maintain adequate intimate hygiene
Be aware of warning signs: intense pain, color change, bleeding for more than 2 hours, and persistent sensory loss

VI. Contraindications

Absolute
Active local or systemic infection
Lesions, dermatitis, or inflammatory diseases in the region
Breastfeeding
Pregnancy
Known hypersensitivity to hyaluronic acid
Neurological diseases with significant sensory alteration

VII. Discussion

The use of hyaluronic acid (HA) in female sexual health treatments has been gaining prominence due to its effectiveness in improving sexual function and intimate well-being. Recent studies have demonstrated that hyaluronic acid (HA) can be successfully used to treat symptoms associated with vulvovaginal atrophy and improve sexual function, especially in postmenopausal women. Bensmail, Hichem et al. (2025) showed significant improvements in atrophy symptoms and increased levels of sexual satisfaction after 52 weeks of follow-up.

HA treatment has been noted for its ability to restore hydration and elasticity to vaginal tissues, an essential condition for comfort and pleasure during sexual intercourse. Gaspar and Mailland (2018) state that HA can effectively increase natural lubrication, facilitating comfort and sexual arousal. Furthermore, vaginal application of HA shows remarkable efficacy in improving sexual function during the postpartum period (Gustavino et al., 2021).

The safety of HA use in aesthetic and functional procedures is also well documented. According to the Global Aesthetics Consensus (2015), hyaluronic acid (HA) is considered safe for injections in sensitive areas when applied by trained professionals, minimizing the risk of adverse reactions and complications. This consensus reinforces the safety of HA in topical and injectable treatments, with a low rate of side effects (LAMI, et al. 2025).

In the context of intimate procedures, the use of ice as a non-pharmacological anesthetic has proven to be an effective, safe, and low-cost strategy to promote comfort during application. Superficial cryotherapy induces vasoconstriction, reduces nerve conduction velocity, and decreases pain perception, providing adequate temporary analgesia for minimally invasive techniques (Algafly & George, 2007). Its use prior to the procedure, generally for 2 to 5 minutes, significantly reduces discomfort without interfering with tissue integrity or the effectiveness of the applied product (Bleakley et al., 2014). Thus, ice represents a relevant alternative, especially for patients with increased sensitivity or contraindications to the use of traditional topical anesthetics.

In clinical practice, the choice of hyaluronic acid (HA) type and concentration is crucial for treatment success. The medium to high density used in our study aims to optimize volumizing effects without compromising safety, an approach supported by Salvatore et al. (2016). These variables are critical for adapting interventions to the specific needs of each patient, ensuring personalized and effective results.

Furthermore, continuous patient monitoring is imperative to assess treatment efficacy over time and to implement adjustments if necessary. The long-term safety perspective, as discussed in the reviewed studies, supports the continued implementation of HA as a viable solution for women's intimate health issues.

Figures11 e 12: Results of the procedure

VIII. Conclusion

This study on the use of hyaluronic acid in women's sexual health treatments stands out for exploring innovative interventions that improve the quality of life of women, especially those experiencing postmenopausal changes. The developed protocol, focused on the safety and efficacy of hyaluronic acid (HA) use for volumizing and hydrating genital tissues, shows promising results. Gaspar and Mailland (2018) had already indicated that this type of intervention offers not only aesthetic but also functional improvements, considerably increasing sexual satisfaction and daily comfort.

Despite substantial support from existing literature, as evidenced by long-term studies reporting the continued benefits of HA, there is still significant room to expand the scope of research. Although current findings suggest a robust safety profile and remarkable efficacy, the relatively limited sample size of this study calls for further investigation.

A more comprehensive study with an expanded number of participants is needed.

Studies with a larger sample size will allow for more precise statistical analysis and may better delineate the impact of HA treatment on diverse demographic groups, including different age ranges and pre-existing health conditions. A larger sample size would also allow for more detailed investigation of long-term effects, results that would be crucial for establishing the gold standard of this clinically innovative protocol.

Furthermore, expanding the sample may help identify potential mediating variables that influence treatment efficacy, such as the role of hormonal or psychological factors in the success of HA treatments for genital rejuvenation.

The developed female protocol, which integrates advanced technical considerations with rigorous ethical measures, establishes a solid foundation for therapies that can be integrated into daily clinical practice. It stands as an innovative paradigm that can provide practical guidelines for the treatment of sexual dysfunctions and aging conditions in women, aiming to significantly improve women's health and well-being.

Therefore, while the results outline an encouraging path for future therapeutic practices, this study reiterates the importance of the continued development and validation of protocols through robust and expansive research. Such an approach will ensure that interventions are not only effective, but also universal and accessible to all women seeking improvement in their intimate health and overall quality of life.

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