

Discussion: Juvéderm Volbella with Lidocaine for Lip and Perioral Enhancement: A Prospective, Randomized, Controlled Trial

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Sir:

The number of hyaluronic acid (HA) products available for soft tissue augmentation is increasing at a higher rate than the production of evidence for their use. Comparative studies on large series of patients, such as the present study, are essential to help practitioners choose the optimal HA product. Despite the authors' conflicts of interest, which were clearly stated, the authors used many tools to improve the evaluation of HA products, including a blinded evaluator.

The FACE-Q is a clinical tool that provides an evidence-based approach to aesthetic practice.¹ The combination of the FACE-Q results and lip volume and lip surface area measurements provided consistent and objective information regarding less acute swelling after the performance of procedures with Juvéderm Volbella. This indicates that Juvéderm Volbella can be a good option for tear trough correction and perioral enhancement. Other authors have suggested that Volbella, which contains a lower HA concentration (15 mg/mL) than does Restylane, Perlane, and Juvéderm (20, 20, and 24 mg/mL, respectively), would result in a less hydrophilic gel that absorbs less water from surrounding tissues after injection.²⁻⁴

Some of the present authors' findings are explained by the rheology of injectable products. Most HA-based fillers are viscoelastic, containing both elastic (solid) and viscous (liquid) components. The physicochemical structure of the gel determines its rheology (viscosity, elasticity, and plasticity). Certain variables may be adjusted, such as the concentration of the solid phase molecules, method and percentage of cross-linking, and gel-to-fluid ratio.²

Two rheological properties that can be quantified are the complex viscosity (η^*) and elastic modulus (G'). The η^* measures the gel's ability to resist shearing forces. It relates to how the filler flows from the needle. A high-viscosity gel does not spread easily within tissues. The G' is a measure of gel stiffness, that is, the ability to resist deformation under applied pressure. The higher the G' of a gel, the less it deforms under pressure and the more stored energy it retains.^{2,5}

Gels with a high G' (high stiffness) and η^* , such as Restylane and Perlane, are relatively firm and do not spread much after implantation, remaining more defined in the tissue.⁵ These gels are more resistant to dynamic forces during facial muscle movement and thus may provide better stability and longer duration of correction in areas such as the midface, nasolabial folds, marionette lines, lower face, temples, and lips when tissue quality is appropriate.^{2,5}

Gels with a low G' are better suited to areas with superficial wrinkles, where resistance to deformation is not critical, or areas where the anatomy requires softness instead of stiffness, such as the lips.² Juvéderm Voluma, Juvéderm Ultra, and Juvéderm Ultra Plus showed an intermediate G' and η^* and were found to be softer and to spread more easily after implantation, exhibiting a balance between elasticity and fluidity. Products such as Belotero Balance, with the lowest η^* and therefore the greatest tendency to spread, are optimal when homogeneous distribution within the superficial and deep reticular dermis is desired, as when filling areas of thin, atrophic skin.⁵

The G' of Juvéderm Volbella (approximately 160 Pa³) is similar to that of other products in the Juvéderm family.⁵ This should result in a smoother, softer injectable gel that spreads more easily in the tissues compared with Restylane, as the authors found. Smoother injections may explain fewer injection site responses.^{3,4} The authors' primary end point was the noninferiority comparison of responders with Juvéderm Volbella versus Restylane-L. This is a comprehensive comparison because Restylane is the oldest HA still present on the market and is addressed in the highest number of publications.⁶ However, why was Volbella compared with Restylane (with a much higher G') and not with the other products in the Juvéderm family? A similar comparison between Volbella and other products of the Juvéderm family would help elucidate what was added to this line with this new product.

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A gel with a lower degree of cross-linking but higher HA concentration could have a modulus similar to that of a gel with a higher degree of cross-linking but lower concentration,² which seems to be the case with Juvéderm Volbella. Volbella reportedly incorporates both short- and long-chain HA to provide more efficient cross-linking than that in Juvéderm Ultra, which contains only long-chain HA. The objective was to provide longer product duration. In a prospective, open-label study, 86.4% and 56.9% of 60 participants treated with Volbella reported lip improvement after 9 and 12 months, respectively.³ A large review of soft tissue fillers found that one of the main gaps in the current evidence base is the need for long-term safety and efficacy data: only 43% of studies reported a >6-month follow-up.⁶ We hope to see the 12-month results of the present series reported soon.

Notably, an experienced injector can obtain good results no matter which product is chosen. As soon as the plunger of the syringe is moved, the injector can adapt the deepness of injection and quantity of product according to the viscosity felt. Less experienced injectors should pay more attention when choosing the brand to be used at each injection site and will find it easier to work with low-viscosity products. However, every injector can take advantage of the rheological attributes of the various products available to achieve better results.

Layering of fillers in the superficial and deep tissue planes can provide tissue support by means of 3-dimensional vectoring. Specifically in the lips, filler selection may represent a balance between the clinician's desire to provide a lifting effect and stable contours and the patient's preferences regarding filler palpability.⁵

The evidence currently required to allow for better decision making is a uniform map of all products available on the market, not only regarding G' and η^* but also acute adverse effects, duration of clinical effect, and cohesiveness (an issue that is presently under consideration and remains to be clearly defined).

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DISCLOSURE

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