

Features

« Story: [Ethnically speaking](#)



Under pressure

Devices for injecting while regulating the flow of fillers are starting to come on stream. Dr Sabine Zenker assesses their role in the aesthetics market and puts one to the test

The focus on filling and volumising treatments has been to choose better products with enhanced efficacy and safety. While improvements to their composition will continue, the development of new methods of delivering fillers such as hyaluronic acid will represent a big step forward for physicians and their patients.

Patients' satisfaction of HA-based injections depends on two major factors: the nature of the product and how it is administered. Pain and bruising are the most commonly reported untoward events, even in the most skilled hands.

There are multiple automated systems to deliver hyaluronic acid. A high-end technology machine is Airgent, which uses Biaction technology to deliver pneumatically HA in the very superficial layer of the dermis. It stimulates collagen-neogenesis on larger dermal surfaces to thicken dermal structures. This technology gives promising results for difficult indications such as stretch marks, hypopigmented scars, and fine wrinkling on the face and neck, and décolleté.

Mesotherapy and rehydration systems are also available, but the newest kid on the block is a power-assisted injection device named Anteïs injection system. It has an electronically regulated volume control function with several advantages: less bruising, less redness and less swelling than from standard injections.

This new way of injecting an HA-based filler spares the physician typical signs of muscle fatigue, particularly when performing multiple injections throughout the day. The injection of the product is automated, so the physician can concentrate fully on placing the product into the target site without worrying about manually pressing down on the plunger.

Regulation

The regulation of flow of product is crucial in minimising the pain from injection. Regardless of the targeted tissue, the Injection System can electronically regulate the constant flow of the product injected and minimises the stretch effect of the tissue caused by injection.

There is no force applied on the plunger when injecting, as the device injects electronically at the values and parameters set by the physician before the procedure. The device is designed for local injections with Anteïs-HA and other HA-products, in 1–2 ml glass-syringes.

The Injection System is designed to be used with both rehydrating and filling products with

different modes of injection (drop and flow, variable speed and size). The device provides highly predictable volumetric dosage delivery. The uniqueness of this device comes from the its compatibility with all the injection techniques and all indications.

One of the greatest barriers to patients choosing to undertake treatment, or failing to continue, is the pain they associate with injections. With this technique, pain, swelling and haematoma are reduced by allowing the use of smaller-diameter or long blunt needles. It therefore requires fewer injection points, ensuring an even flow of product into the skin.

A clinical investigation was performed to visualise the effects of the two modes of injection. A patient was injected with Fortélis extra on nasiolabial folds, vermillion border of the upper lip as well as corners of the mouth. The same 27G needle was used, as well as the same amount of material on both injection sides. A split-face technique was performed: the right side was by standard injection, the left side by AIS-injection.

Assessment

To assess the effect objectively after implantation of the HA, the Canfield-3D-Vectra-System was used. We matched the pre- and post-pictures together to compare the difference in terms of tissue reaction between the both injection sides. The analysis post-injection showed a significant difference between tissue reaction on each side. On the AIS-side, tissue-reaction was far less in terms of apparent swelling. The tissue possibly reacts far less in alteration and oedema. The distance between the pre- and the post-position of the dermal structures is not as large (about 1.5mm compared with up to 2.5mm for standard injections).

The imaging system shows that the tissue reaction on the AIS-side is less disruptive and shows less oedema. The aesthetic result is more subtle, smoother and the placement of the implant is far more targeted and better controlled.

These benefits seem to come from a proprietary technology of regulating flow speed and pressure while injecting HA with an automated system. Apparently this does lead to a far-less traumatic injection of hyaluronic acid. This is the first time this significant difference in terms of dermal effects and tissue reaction has been shown objectively by 3D-analysis.

Dr Sabine Zenker is a dermatologist at the Dermatology Surgery Clinic, Maximilianstr 36, D-80539 Munich. T: +49-89-55 27 69-0; F: +49-89-55 27 69-11; E: kontakt@dr-zenker.de; W: dr-zenker.de