Enhancing Hand Aesthetics with Non-Cross-Linked Hyaluronic Acid for Photoaging Rejuvenation

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BACKGROUND

Working with photoaging of the face is a long-standing trend, which can be considered a pilar of aesthetic medicine. However, when the facial aging signs are ameliorated, patient´s hands as second most visible body part, can give a contrast to treated face skin.
Skin photoaging on both the face and dorsal hands involves several common pathogenetic mechanisms resulting in the same aesthetic problems. Reduction of collagen and hyaluronic acid content as well as disorganization of dermal matrix are common signs of skin photoaging of the hands, for which targeted interventions were developed including fat grafting, laser treatment and the injection of hyaluronic acid-based products [1,2].

OBJECTIVE

Investigation of monophasic dermal implant containing non-crosslinked hyaluronic acid of high molecular weight with concentration 15 mg/ml (CE-marked Medical Device Class III, RRS® Hyalift® 75, Skin Tech Pharma Group, Spain) for photoaging amelioration, skin hydration, texture and dorsal hand wrinkles improvement was performed. This study was a part of the post-market clinical follow-up performed to evaluate the efficacy of the product in the treatment of the signs of photoaging on the hands, with an additional focus on the aspects of safety profile.

METHOD

A prospective case series study was undertaken spanning the period from June to November 2023. The study encompassed a total of 50 cases, all of which were subjected to a comprehensive statistical analysis. Participation in this endeavor extended to 9 countries (Bulgaria, Georgia, Macedonia, Serbia, United Kingdom, Ukraine, Russia, Spain) with the active involvement of 13 healthcare professionals.
Before the application of the product, the treatment area was delimitated from the wrist crease to metacarpophalangeal joints. The product was injected intradermally with 30/32G needle into disinfected area at approximate 20-degree angle in microdermal papules with the distance of 1 cm between the injection points. A total of 50 injection points were evenly distributed on each hand with 0.05 ml of the product per point.

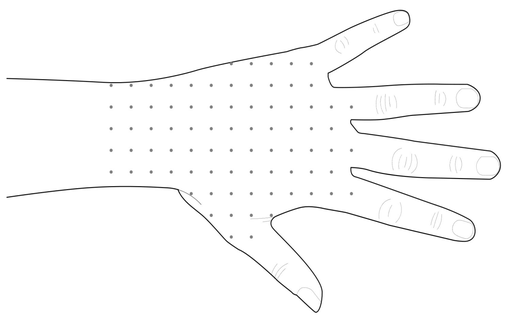

Figure 1. Application scheme of RRS® Hyalift® 75 (5mL vial)

INJECTION DEVICES	30G needle + syringe 1.0 mL luer lock
INJECTION DEPTH	Intradermal
INJECTION TECHNIQUE	Microdermal papules
VOLUME PER POINT	0.05 ml
VOLUME PER SIDE	2.5 ml
TOTAL POINTS	50 points per hand

RESULTS

Hand Grading Scale

Hand Grading Scale showed an improvement, starting with a mean value of 2.31 on Day 0 and diminishing to 1.66 on Day 7, representing a 28% overall reduction in skin photoaging signs. The success rate was 66% meaning the proportion of patients with improvement assessed by HGS.

HAND GRADING SCALE. PHOTOAGING EVALUATION.

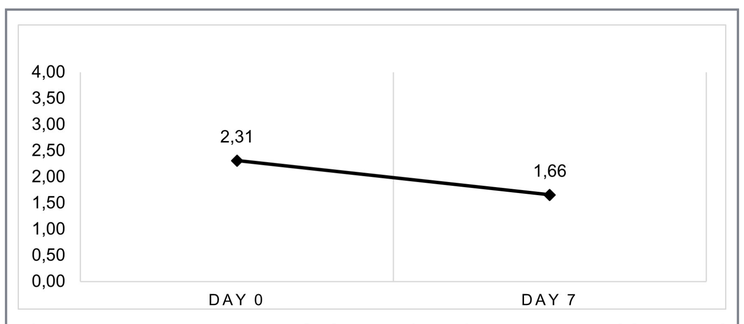

Figure 2. Improvement of photoaging signs, assessed by Hand Grading Scale.
**The Hand Grading Scale is a 5-point photonumeric rating scale that was developed to objectively quantify the severity of ageing of the hand. The scale ratings are: 0 - no loss of fatty tissue, 1 - mild loss of fatty tissue and slight visibility of veins, 2 - moderate loss of fatty tissue and mild visibility of veins and tendons, 3 - severe loss of fatty tissue and moderate visibility of veins and tendons, and 4 - very severe loss of fatty tissue and marked visibility of veins and tendons.*

Skin texture and skin hydration descriptive numeric scales

Visible enhancement in skin hydration was observed transitioning from an initial mean value of 2.45 on Day 0 to 1.62 on Day 7, reflecting a 34% improvement in skin hydration.
As for skin texture, there was a notable change from initial mean value of 1.62 on Day 0, decreasing to 1.24 on Day 7, culminating in a 23% improvement in the skin texture comparing to the baseline.

EVALUATION OF SKIN TEXTURE AND HYDRATION

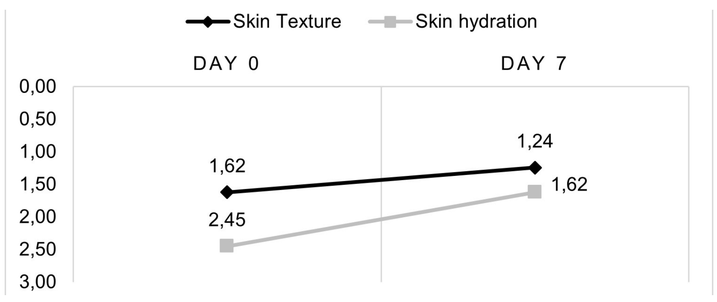

Figure 3. Skin texture and hydration scores before and 1 week after the treatment.
** Skin texture descriptive scale with 4 grades available: 0 – Smooth, 1 - Mild (Subtle irregularities), 2 – Moderate (Rough in localized areas), 3 – Severe (Rough throughout).*
**Skin hydration numeric scale contains 4 levels: 1 – hydrated, 2 - mild dehydration, 3 – moderate dehydration, 4 –severe dehydration.*

Dorsal hand wrinkles photonumeric scale

Reduction in photonumeric Dorsal Hand Wrinkles Grading Scale was observed, commencing with an initial mean value of 2.14 on Day 0 and decreasing to 1.79 on Day 7, resulting in an 16% decrease in wrinkles severity.

DORSAL HAND WRINKLES

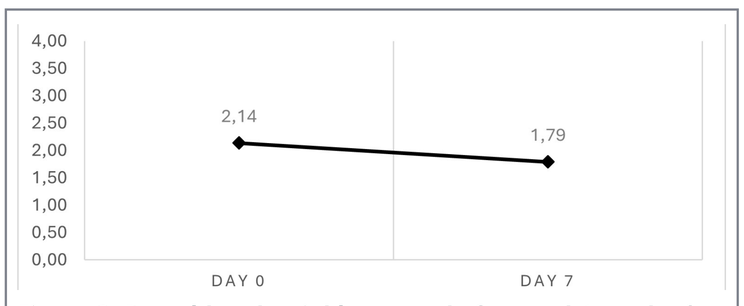

Figure 3. Dorsal hand wrinkle scores before and 1 week after the treatment.
**Dorsal hand wrinkles improvement was evaluated by using photonumeric grading scale, where 0 – no wrinkles, 1 – barely perceptible wrinkles, 2 – shallow wrinkles, 3 – moderate wrinkles, 4 – deep wrinkles with define edges.*

GAIS rate

After administering RRS® HYALIFT ® 75, patient self-evaluation collected on Day 7 revealed that 93% of patients perceived their appearance as “Much Improved” (31%) or “Improved” (62%) compared to baseline (D0, before treatment).
The healthcare professionals noted positive changes in 97% of the cases on the control visit (Day 7) compared to baseline (D0, before treatment).

GAIS EVALUATION

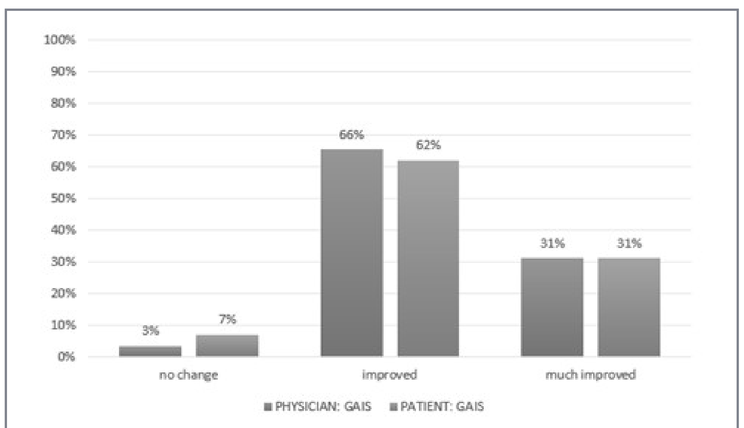

Figure 4. GAIS ratings as assessed by physician and patients.

No serious or unexpected adverse events were registered occurred during the study. Observed local application effects were those typically associated with the procedure of intradermal injections.

CONCLUSIONS

Obtained results confirm the robust level of efficacy of RRS® HYALIFT® 75 for improving skin photoaging signs along with enhancing skin texture and hydration with reduction in wrinkles severity of dorsal hands.
Rapid visible improvement, patient and healthcare professional concordant satisfaction with the results and favourable safety profile are the primary features of using non-crosslinked hyaluronic acid injectable for the treatment of skin photoaging of the hands.

Bibliography:

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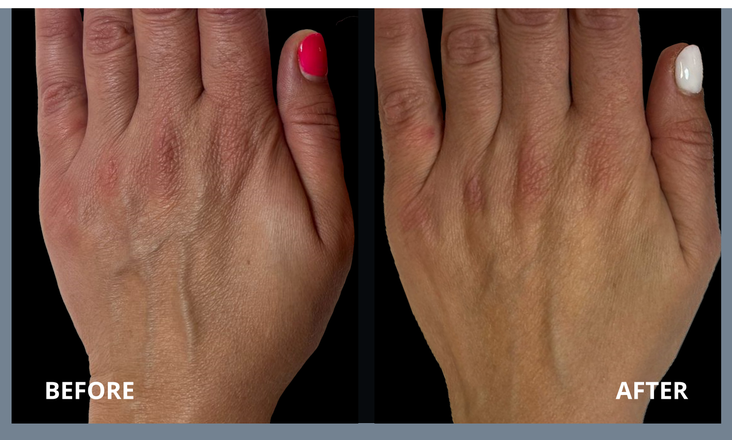
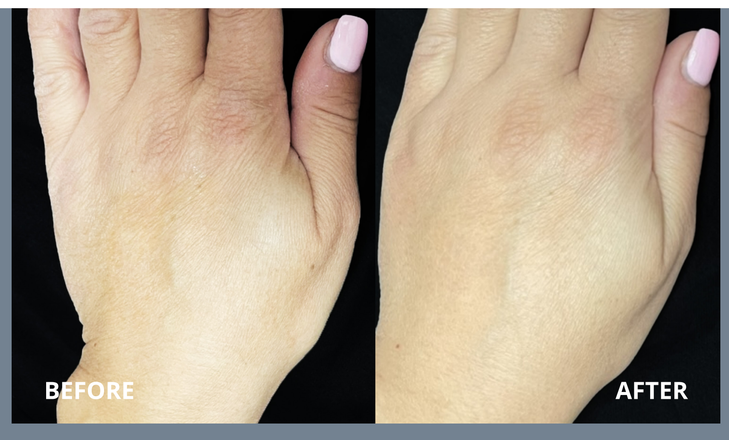
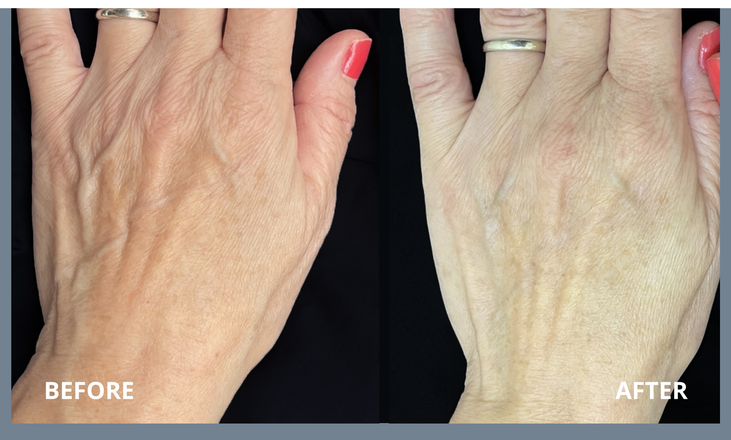


Clinical case 1.
Dr. Leila Korinteli



Clinical case 2.
Dr. Tomche Popovski



Clinical case 3.
Dr. Tomche Popovski

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