M89 : A COMBINATION OF 89% MINERALIZED THERMAL WATER AND HYALURONIC ACID IS EFFECTIVE AND WELL TOLERATED AFTER DERMATOLOGIC PROCEDURES

Elena Araviiskaia[1], Martina Kerscher[2], Julieta Spada[3], Cecilia Orlandi[4], Maryna Anfilova[5], Sonya Abdulla[6], Adriana Floriánová[7], Klaudia Preisz[8], Anita Altmayer[9], Catherine Delva[10], Kerob D[11], Maiia Goldobina[12], Monika Arenbergerová[13], Masha Sviatoslav Tuz[14], Jerry Tan[15]

[1]Department of Dermatology and Venereal Diseases, First Pavlov State Medical University of St. Petersburg, St. Petersburg, Russian Federation, [2]Division of Cosmetic Science, University of Hamburg, Germany, [3]Clínica Dra Julieta Spada. Dermatología y Estética, Buenos Aires, Argentina, [4]Clinica Orlandi, Santiago, [5]Department of Dermatology and Venereology, Vinnytsya National Pirogov Memorial Medical University, Vinnytsya, Ukraine, [6]Dermatology on Bloor, Toronto, ON, Canada M4W2N27, [7]Adriana Florianova Private Medical Practice Dermina, Kosice, Slovak Republic, [8]Buda Health Centre, Budapest, Hungary, [9]Department of Dermatology and Allergology, Szent-Györgyi Albert Clinical Centre, Szeged, Hungary, [10]Sylia-Stat Lancrenon, Bourg-la-Reine, France, [11]Vichy Laboratoires, France, [12]Private medical practice, Saint-Petersburg, Russian Federation, [13]Department of Dermato-Venereology, Third Faculty of Medicine, Charles University, Královské Vinohrady University Hospital, Prague, Czech Republic, [14]Sharapova Clinic, Samara, Russian Federation, [15]Western University and Windsor Clinical Research Inc., Windsor, Canada

INTRODUCTION

The skin exposome comprises several external and internal factors including UV radiation, climatic conditions (heat and humidity), medications, pollution, stress, and dermatologic procedures that may damage the skin barrier, induce skin diseases or accelerate skin ageing.[1-5]

Mineral 89 (M89, Vichy Laboratoires), containing 89% Vichy volcanic water and hyaluronic acid in a minimalist formulation, was developed to reinforce the skin barrier and to protect against exposome factors.[6-9]

Recent study results from 1630 subjects with inflammatory dermatoses or having undergone dermatologic procedures confirmed the benefit and excellent tolerance of M89.[10]

AIM OF THE STUDY

The aim of this study was to assess after 4 weeks of daily use the efficacy and tolerability of M89 in adult subjects having undergone dermatologic procedures.

METHODOLOGY

In an international, multicenter observational study, subjects having undergone dermatologic procedures applied for 4 weeks once or twice daily M89. Data about dermatologic procedures (including acne, scars, skin ageing, spots), subject information, skin characteristics compliance, subject perception of efficacy, tolerance, as well as investigator satisfaction were collected after 4 weeks. Subject satisfaction was assessed after 1 and 4 weeks of use.

RESULTS

Data from 1101 subjects were analyzed. Peeling accounted for 23.3% and Laser/IPL for 22.1% of dermatologic procedures. At baseline, subjects had mainly dry (47.6%) and sensitive skin (60.5%). 50.3% presented with some degree of erythema, 54.0% with desquamation and 63.8% with irritation. A total of 56.2% had dry or very dry skin; while 64.8% considered that their skin was insufficiently hydrated. Mean scores for dryness, burning, itching and stinging/tingling sensation assessed by subjects were 5.3±2.8, 2.4±2.6, 1.5±2.2 and 2.3±2.6, respectively.

Common reasons for dermatologic procedures were skin ageing (49.6%) and acne scars (10.2%).

Subject demographics, skin characteristics, and types of procedures and reasons are provided in Table 1. Incidence and severity of clinical signs are given in Table 2.

After 4 weeks of M89 use, clinical signs (erythema, irritation, desquamation) significantly improved ($p<0.0001$; Figure 1). Skin hydration had significantly increased in 74.1% of subjects ($p<0.0001$).

Patient symptoms of dryness, burning, pruritus, and stinging/tingling significantly improved as well ($p<0.0001$; Figure 2).

At study end, 98.4% of subjects were satisfied with the texture of M89. Mean satisfaction score was 8.5 ± 1.7 out of 10 after applying M89 for one week and 9.0 ± 1.5 after 4 weeks. After applying M89 for one week, 93.0% reported that their skin was soothed or very soothed remaining unchanged until week 4. M89 was well-or very well-tolerated by 98.5% of subjects.

In 98.0% of subjects, investigator satisfaction was high or very high.

In the subgroup treated with "aggressive lasers" (defined as laser resurfacing, laser CO2, Fractional and Erbium lasers; N=99), improvement of clinical signs (Figure 3) and symptoms (Figure 4) was significant ($p<0.0001$). At study end, all subjects were satisfied with the texture of M89. The mean satisfaction score was 8.7 ± 1.4 out of 10 after applying M89 for one week and 9.1 ± 1.3 after 4 weeks.

Table 1

DEMOGRAPHICS, SKIN CHARACTERISTICS AND REASON FOR AND TYPES OF PROCEDURE

	Total	
	n	%
Gender	**1100**	**100**
Female	1021	92.8
Male	79	7.2
Age	**1091**	**100**
Mean ± SD	42.2 ± 10.4	
Median	42.0	
Min;Max	18;85	
Phototype	**1099**	**100**
I	77	7.0
II	494	44.9
III	447	40.7
IV	74	6.7
V	7	0.6
Skin type	**1099**	**100**
Very dry	**95**	**8.6**
Dry	523	47.6
Normal	190	17.3
Combination	234	21.3
Oily	56	5.1
Very oily	1	0.1
Sensitive skin	**1096**	**100**
Yes	663	60.5
No	433	39.5
Reason for procedure	**678**	**100**
Skin ageing (± spots)	336	49.6
Acne (±scars)	69	10.2
Scars only	39	5.8
Spots only	48	7.1
Other reasons	186	27.4
Type of procedure	**1101**	**100**
Laser and/or IPL	243	22.1
HIFU and/or Radiofrequency	184	16.7
Microneedling only	90	8.2
Peeling only	257	23.3
Microdermabrasion only	83	7.5
PDT only	20	1.8
Cryotherapy only	58	5.3
Other types or associations	166	15.1

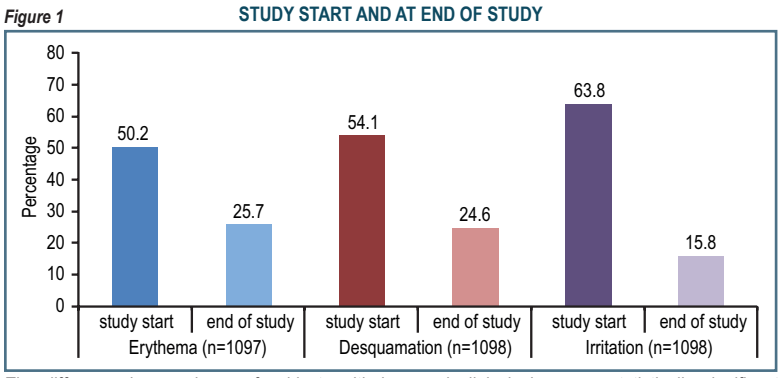
Table 2

CLINICAL SIGNS ASSESSED BY THE INVESTIGATORS AT STUDY START

	Total	
	n	%
Erythema	**1098**	**100**
Yes	552	50.3
No	546	49.7
Grade	***1085***	***100***
Very intense	29	2.7
Intense	83	7.6
Moderate	226	20.8
Low	201	18.5
Absent	546	50.3
Desquamation	**1100**	**100**
Yes	594	54.0
No	506	46.0
Grade	***1096***	***100***
Very intense	25	2.3
Intense	66	6.0
Moderate	186	17.0
Low	313	28.6
Absent	506	46.2
Irritation	**1099**	**100**
Yes	701	63.8
No	398	36.2
Grade	***1088***	***100***
Very Intense	22	2.0
Intense	82	7.5
Moderate	436	40.1
Low	150	13.8
Absent	398	36.6

Figure 1

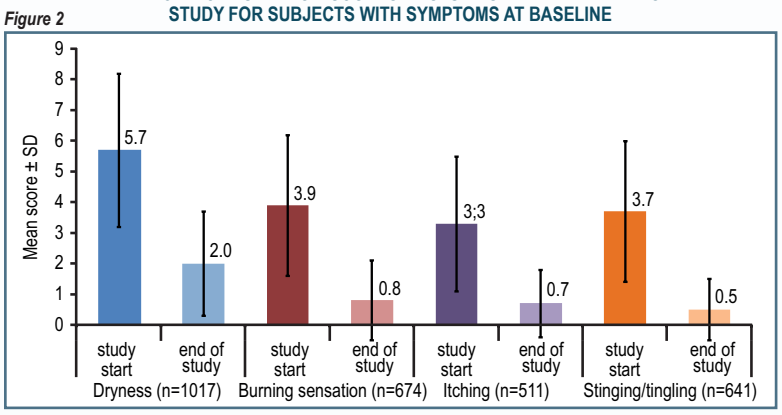
PREVALENCE OF SUBJECTS WITH CLINICAL SIGNS AT STUDY START AND AT END OF STUDY



The difference in prevalence of subjects with improved clinical signs was statistically significant ($p<0.0001$) after 4 weeks compared to study start

Figure 2

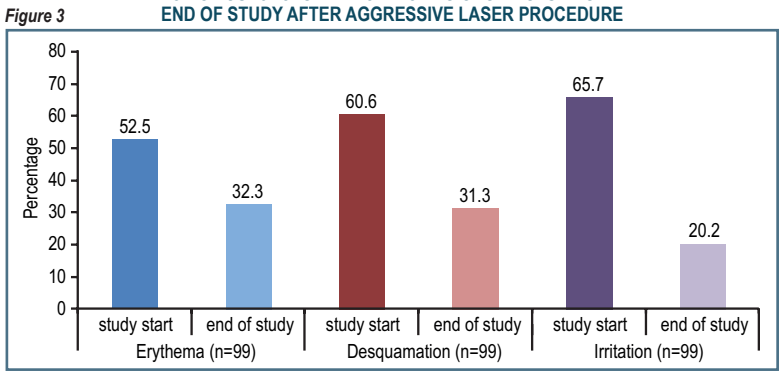
MEAN CLINICAL SYMPTOM SCORES AT STUDY START AND AT END OF STUDY FOR SUBJECTS WITH SYMPTOMS AT BASELINE



The mean score for skin dryness had decreased by 62.1%, for burning sensation by 78.8%, for itching sensation by 70.0% and for stinging/burning tingling by 84.2%. The decrease was statistically significant ($p<0.0001$).

Figure 3

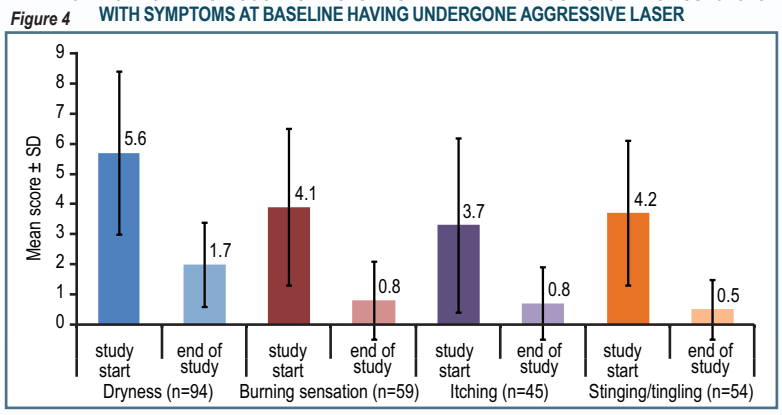
PREVALENCE OF SUBJECTS WITH CLINICAL SIGNS AT STUDY START AND AT END OF STUDY AFTER AGGRESSIVE LASER PROCEDURE



The difference in prevalence of subjects with improved clinical signs was statistically significant ($p<0.0001$) after 4 weeks compared to study start

Figure 4

MEAN CLINICAL SYMPTOM SCORES AT STUDY START AND AT END OF STUDY FOR SUBJECTS WITH SYMPTOMS AT BASELINE HAVING UNDERGONE AGGRESSIVE LASER



The mean score for skin dryness had decreased by 70.7%, for burning sensation by 84.9%, for itching sensation by 74.2% and for stinging/ tingling by 91.8%. The decrease was statistically significant ($p<0.0001$).

CONCLUSION

Daily use of M89 for 4 weeks in subjects having undergone dermatologic procedures, including aggressive lasers resulted in very high user satisfaction along with objective and subjective skin improvement. M89 is an effective and well tolerated adjunct in post-procedure skin care.

REFERENCES

1. Dreno B. Bettoli V. Araviiskaia E. Sanchez Viera M. Bouloc A. The influence of exposome on acne. J Eur Acad Dermatol Venereol. 2018;32(5):812-9.
2. Krutmann J. Bouloc A. Sore G. Bernard BA. Passeron T. The skin aging exposome. J Dermatol Sci. 2017;85(3):152-61.
3. Rappaport SM. Genetic Factors Are Not the Major Causes of Chronic Diseases. PLoS One. 2016;11(4):e0154387.
4. Salsberg J. Andriessen A. Abdulla S. Ahluwalia R. Beecker J. Sander M. et al. A review of protection against exposome factors impacting facial skin barrier function with 89% mineralizing thermal water. J Cosmet Dermatol. 2019;18(3):815-20.
5. Tacheau C. Weisgerber F. Fagot D. Bastien P. Verdier MP. Liboutet M. et al. Vichy Thermal Spring Water (VTSW). a cosmetic ingredient of potential interest in the frame of skin ageing exposome: an in vitro study. Int J Cosmet Sci. 2018;40(4):377-87.
6. Nusgens BV. [Hyaluronic acid and extracellular matrix: a primitive molecule?]. Ann Dermatol Venereol. 2010;137 Suppl 1:S3-8.
7. Burke KE. Mechanisms of aging and development-A new understanding of environmental damage to the skin and prevention with topical antioxidants. Mech Ageing Dev. 2018;172:123-30.
8. Hughes MC. Williams GM. Baker P. Green AC. Sunscreen and prevention of skin aging: a randomized trial. Ann Intern Med. 2013;158(11):781-90.
9. Nonotte I. Montastier C. Boisnic S. Branchet-Gumila MC. Breton L. Inhibitory effect of Lucas spring water on substance P induced inflammation in organ culture of human skin. Nouv dermatol. 1998;1:535-42.
10. Tan J, Spada J, Orlandi C, Kerscher M, Anfilova M, Abdulla S, et al. Vichy mineralizing water with hyaluronic acid is effective and well tolerated as an adjunct to the management of various dermatoses and after esthetic procedures. J Cosm Dermatol. 2019;accepted for publication.

Conflict of interest

Delphine Kerob is an employee of Vichy Laboratoires. Jerry Tan is a member of advisory boards organized by Vichy Laboratoires. The other authors have no conflict of interest to disclose.

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