International Journal of Clinical Dermatology
2026, Vol. 9, No. 2, pp. 132–139
https://doi.org/10.11648/j.ijcd.20260902.14

Case Report

Focused Ultrasound Followed by Radiofrequency Microneedling with Bacteria-derived Extracellular Vesicle for Melasma and Skin Aging: A Retrospective Case Series

Trong Nghia Vo*

Department of Dermatology and Aesthetic, Annsthetic Beauty Clinic, Ho Chi Minh City, Vietnam

Abstract

Background: Melasma and facial skin aging are multifactorial conditions involving pigmentary, inflammatory, vascular, and dermal remodeling pathways. Combination energy-based device (EBD) protocols are designed to target multiple pathways in a single treatment course. However, real-world data on focused ultrasound and radiofrequency (RF) microneedling combined with bacteria-drived extracellar vesicle, for managing melasma and facial skin aging are limited. *Case Presentation:* This is a retrospective, single-center case series of four patients aged 50 to 60 years with Fitzpatrick skin phototypes III to IV, presenting with mixed-type melasma, and facial skin aging. During the first session, each patient received dot-mode focused ultrasound (LinearZ) followed 30 minutes later by monopolar RF microneedling (POTENZA) with 1.5 mL of a bacteria-derived extracellular vesicle solution (RexoFace). Patients subsequently received one or two additional RF microneedling sessions at 6-week intervals. Thus, the interval from baseline to the final 4-week post-treatment assessment was approximately 10 weeks for patients receiving two RF sessions and 16 weeks for the patient receiving three RF sessions. Outcomes were assessed descriptively on standardized clinical photographs and images obtained with the Sylton OBSERV 520x imaging platform at baseline and 4 weeks after the final session. All four patients showed investigator-assessed improvement in melasma pigmentation, skin quality, and clinical signs of facial aging. Assessment was unblinded and no validated severity instrument was applied. Mild to moderate erythema with edema followed each RF microneedling session and decreased without intervention within 45 minutes. No serious adverse events, scarring, infection, or post-inflammatory hyperpigmentation were recorded during the 4-week observation period. Since the follow-up was limited to 4 weeks after the final session, these observations do not establish medium-term cutaneous safety or durability. *Conclusions:* In this retrospective four-patient case series, the combined protocol of dot-mode focused ultrasound and monopolar RF microneedling with a bacteria-derived extracellular vesicle solution was associated with visible improvement and was well tolerated over a short observation period.

Keywords

Melasma, Skin Aging, Radiofrequency Microneedling, Extracellular Vesicles, Focused Ultrasound, Fitzpatrick Skin Phototype III-IV, Vietnam, Case Series

*Correspondence: Trong Nghia Vo (bsreongnghia.dalieu@gmail.com)

Received: 25 September 2026; **Accepted:** 8 October 2026; **Published:** 26 October 2026

Copyright: © The Author(s), 2026. Published by Science Publishing Group. This is an **Open Access** article, distributed under the terms of the Creative Commons Attribution 4.0 License (http://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution and reproduction in any medium, provided the original work is properly cited.

1. Introduction

Demand for minimally invasive aesthetic procedures has increased considerably in recent years [1], accompanied by growing interest in combination energy-based device (EBD) therapies [2]. Combination EBD protocols are used in aesthetic dermatology to address pigmentation, skin laxity, and wrinkling within a single treatment course [3, 4].

Skin aging and pigmentary disorders are now treated as multifactorial conditions with epidermal, dermal, vascular, and inflammatory components rather than as single-target pathologies [5]. Melasma involves excess melanogenesis together with dermal photoaging, chronic inflammation, vascular alteration, and basement membrane disruption [6, 7]. Age-related skin change involves collagen degradation, elastin fragmentation, chronic inflammation, and reduced regenerative capacity [5]. Treatments that act on more than one of these pathways may therefore produce broader clinical benefit than single-mechanism approaches.

Radiofrequency (RF) microneedling [8-11], extracellular vesicle preparations [12, 13], and focused ultrasound [14, 15] have each been studied for skin rejuvenation, tissue remodeling, or pigmentary disorders. Evidence is heterogeneous across these modalities and does not establish uniform benefit. Because these modalities act at different tissue depths, combining them may provide complementary effects, but this remains a hypothesis requiring controlled evaluation. Real-world evidence for this specific three-modality sequence is limited. This retrospective case series describes clinical outcomes and tolerability of dot-mode focused ultrasound (LinearZ) followed by RF microneedling with bacteria-derived extracellular vesicle delivery (POTENZA and RexoFace) in four patients treated for melasma and facial skin aging.

2. Case Presentation

This retrospective, single-center, observational case series included four consecutive individuals (three women and one man) aged 50 to 60 years with Fitzpatrick skin phototypes III to IV who presented with mixed-type melasma, facial skin aging, and reduced skin quality, and who elected non-surgical management with energy-based devices. The study included all consecutive patients treated with the combination modality at Annsthetic Beauty Clinic, Vietnam. Patients were identified from the clinic's treatment records, and all patients who received the combination treatment during the study period were included in the analysis. The patients were otherwise healthy, with no chronic medical condition and no prior intervention for the conditions described. This retrospective observational case series involved a review of non-anonymized clinical records of patients treated during routine clinical practice. No interventions were performed for research purposes. Identifiable patient information and clinical photographs are reported only with the patients' written informed consent for publication. Patient confidentiality was otherwise maintained throughout the study. The study was conducted in accordance with the ethical principles of the Declaration of Helsinki.

2.1. Treatment Protocol

All four patients received one session of dot-mode focused ultrasound (LinearZ; Jeisys Medical Inc, Seoul, Republic of Korea) and two or three sessions of radiofrequency (RF) microneedling (POTENZA; Jeisys Medical Inc, Seoul, Republic of Korea) During RF microneedling, both monopolar and bipolar RF modes were employed, with frequencies of 1 MHz and 2 MHz, according to the treatment protocol. A bacteria-drived extracellular vesicle-containing solution (RexoFace) was applied during each RF microneedling session. RexoFace (Renvix Science, Switzerland) is supplied as a lyophilized powder that the manufacturer states contain 20 billion extracellular vesicles derived from probiotic bacteria. The powder is reconstituted before use in an activating solution containing two molecular weights of hyaluronic acid, five peptides, thirteen amino acids, polydeoxyribonucleotide, glutathione, niacinamide, α-arbutin, tranexamic acid, ascorbic acid, ectoin, and Lactococcus ferment lysate. Composition and particle count are as stated by the manufacturer and were not independently verified, and vesicle identity, size distribution, and concentration were not characterized in this series. Several constituents of the activating solution, including niacinamide, α-arbutin, tranexamic acid, ascorbic acid, and glutathione, are recognized topical depigmenting agents.

During the first treatment session, dot-mode focused ultrasound was performed first, followed 30 minutes later by RF microneedling. Subsequent treatment sessions consisted of RF microneedling with bacteria-derived extracellular vesicle application only. The interval between consecutive RF microneedling sessions was 6 weeks. The interval from baseline to the final 4-week post-treatment assessment was approximately 10 weeks for patients receiving two RF sessions and 16 weeks for the patient receiving three RF sessions.

RF microneedling was performed using four RF moeds combining monopolar and bipolar energy at 1 MHz and 2 MHz within a single session. Both frequencies were used in thicker skin areas, such as the cheecks and jawline, whereas 1MHz was preferentially applied to thinner areas, including the forehead and periorbital region, to limit superficial heat accumulation. During each RF microneedling session, 1.5 mL of RexoFace was applied. The microneedling tips used included the S-25 (semi-insulated), CP-21 (insulated patented pumping tip), and I-25 (insulated) tips. Patient characteristics, tip selection, treatment depth, and delivered energy for each case are shown in Table 1.

Table 1. *Summary of patient characteristics and treatment parameters.*

S. No.	Patient demographics	Skin condition at baseline	Treatment modality	
			LinearZ	**POTENZA × RexoFace (EVs)**
1	Female, 50 years	Fitzpatrick type IV Mixed type melasma Skin aging (wrinkles and sagging) Overall decline in skin quality parameters	Number of Sessions: 1 Depth: 1.5 mm Mode: Dot Energy: 0.2 J 100 lines per side (melasma area)	Number of Sessions: 2 +Session 1: Tip S-25 combined with 1.5 mL of RexoFace (Renvix Science). Depth: 1.25 - 2.0mm Energy 700 mJ/pulse, 1MHz & 2MHz, monopolar, mid and lower face, 4 passes. +Session 2: Tip CP-21 combined with 1.5 mL of RexoFace (Renvix Science). Depth: 0.5 -2.0mm Energy 200 mJ/pulse, 1 MHz, monopolar, full face, 3 passes.
2	Female, 60 years	Fitzpatrick type III Mixed type melasma Skin aging (wrinkles and sagging) Overall decline in skin quality parameters	Number of Sessions: 1 +Depth: 3.0 mm, Mode: Dot, Energy: 0.9 J, 200 lines per side, midface and lower face +Depth: 4.5 mm, Mode: Dot, Energy: 1.1 J, 150 shots per side, lower face.	Number of Sessions: 3 +Session 1: Tip CP-21 combined with 1.5 mL of RexoFace (Renvix Science) Depth: 0.5 - 2.0mm Energy 200 mJ/pulse, 1 MHz, monopolar, mid and lower face, 4 passes. +Session 2: Tip I-25 combined with 1.5 mL of (Renvix Science). Depth: 0.5 - 2.0mm Energy 600 mJ/pulse, 1 MHz &2 MHz, monopolar & bipolar, full face, 3 passes. +Session 3: Tip CP-21 combined with 1.5 mL of (Renvix Science). Depth: 0.5 - 2.0mm Energy 250 mJ/pulse, 1 MHz & 2 MHz, monopolar, full face, 4 passes
3	Male, 50 years	Fitzpatrick type IV Mixed type melasma Skin aging Overall decline in skin quality parameters	Number of Sessions: 1 +Depth: 3.0 mm, Mode: Dot, Energy: 0.9 J, 300 lines per side, midface and lower face +Depth: 4.5 mm, Mode: Dot, Energy: 1.1 J, 100 shots per side, lower face	Number of Sessions: 2 +Session 1: Tip S-25 combined with 1.5 mL of (Renvix Science). Depth: 1.25 - 2.5 mm, 1 MHz & 2 MHz, monopolar & bipolar, mid and lower face, 4 passes. Energy 600 mJ/pulse, +Session 2: Tip I-25 combined with 1.5 mL of (Renvix Science). Depth: 0.5 - 2.5mm Energy 500 mJ/pulse, 1 MHz & 2 MHz, monopolar & bipolar, full face, 3 passes.
4	Female, 58 years	Fitzpatrick type IV Mixed type melasma Skin aging (wrinkles and sagging) Overall decline in skin quality parameters	Number of Sessions: 1 +Depth: 1.5 mm Mode: Dot Energy: 0.2 J 110 lines per side (melasma area)	Number of Sessions: 2 +Session 1: Tip CP-21 combined with 1.5 mL of (Renvix Science). Depth: 0.5 - 2.0mm Energy 200-300 mJ/pulse, 1 MHz & 2 MHz, monopolar, full face, 3 passes.

S. No.	Patient demographics	Skin condition at baseline	Treatment modality	
			LinearZ	POTENZA × RexoFace (EVs)
				+Session 2: Tip S-25 combined with 1.5 mL of (Renvix Science). Depth: 1.25 - 2.0mm Energy 600 mJ/pulse, 1 MHz & 2 MHz, monopolar & bipolar, mid and lower face, 4 passes.

Abbreviations: MHz, megahertz; J, joule; mJ, millijoule; mL, milliliter; mm, millimeter; RF, radiofrequency
Treatment exposure was recorded as lines per side for the 1.5 mm and 3.0 mm treatment settings and as shots per side for the 4.5 mm treatment setting, in accordance with the device's delivery parameters.
LinearZ energy is reported in joules, whereas POTENZA energy is reported in millijoules

2.2. Assessment Methods

Outcomes were assessed on standardized digital clinical photographs and images obtained with the Sylton OBSERV 520x imaging platform (InnoFaith Beauty Sciences, Netherlands) at baseline and at 4 weeks after the final treatment session. Photographs at both time points were captured with the same camera settings, lighting, working distance, and head position. Assessment was descriptive and compared pigmentation, visible photoaging, and skin quality between the two time points. No validated severity instrument was applied prospectively, and assessment was performed by the treating physician without blinding.

2.3. Clinical Outcomes

All four patients showed visible improvement in the 4 weeks after the final treatment session. Improvement was recorded in melasma pigmentation, facial skin quality, and clinical signs of aging, including skin firmness and fine lines, as documented by paired clinical photographs and images obtained using the Sylton OBSERV 520x imaging platform (Figures 1-4).



Figure 1. *Case 1. Clinical and Sylton OBSERV 520x photographs of a 50-year-old woman at baseline and at 4 weeks after the final treatment session, captured under matched lighting, camera settings, working distance, and head position. Upper panels, clinical photographs; lower panels, Sylton OBSERV 520x images; no post-processing.*



Figure 2. *Case 2. Clinical and Sylton OBSERV 520x photographs of a 60-year-old woman at baseline and at 4 weeks after the final treatment session, captured under matched lighting, camera settings, working distance, and head position. Upper panels, clinical photographs; lower panels, Sylton OBSERV 520x images; no post-processing.*



Figure 3. *Case 3. Clinical and Sylton OBSERV 520x photographs of a 50-year-old man at baseline and at 4 weeks after the final treatment session, captured under matched lighting, camera settings, working distance, and head position. Upper panels, clinical photographs; lower panels, Sylton OBSERV 520x images; no post-processing.*



Figure 4. *Case 4. Clinical and Sylton OBSERV 520x photographs of a 58-year-old woman at baseline and at 4 weeks after the final treatment session, captured under matched lighting, camera settings, working distance, and head position. Upper panels, clinical photographs; lower panels, Sylton OBSERV 520x images; no post-processing.*



Figure 5. *Facial appearance immediately after the combined treatment session (left panel of each pair) and 45 minutes later (right panel of each pair), showing mild to moderate transient erythema and edema that decreased without intervention. (a) Case 1; (b) Case 2; (c) Case 3; (d) Case 4.*

2.4. Safety and Tolerability

No patient discontinued treatment. Mild to moderate erythema, accompanied by edema, followed each RF microneedling session and decreased substantially within 45 minutes without intervention (Figure 5). No serious adverse events occurred, and no scarring, infection, persistent erythema, prolonged edema, or post-inflammatory hyperpigmentation was recorded up to the last documented assessment in 4 weeks. Post-inflammatory hyperpigmentation and melasma relapse typically appear beyond this interval in Fitzpatrick phototypes

III and IV, so these findings do not establish medium-term cutaneous safety.

3. Discussion

In this case series, dot-mode focused ultrasound followed by RF microneedling with bacteria-derived extracellular vesicle solution delivery was associated with investigator-assessed improvements in melasma, skin quality, and signs of facial aging in four Asian patients aged 50 to 60 years, with no serious adverse events during the observation period. The direction of these observations is consistent with published combination EBD studies [3, 16, 17].

One explanation for the observed improvement is that the combination acts on several pathogenic mechanisms simultaneously rather than on a single endpoint. Melasma and skin aging involve pigmentary, inflammatory, vascular, and dermal remodeling pathways [5, 6]. Treatments delivered to different tissue depths may therefore produce broader clinical benefit than single interventions. This series cannot separate the contribution of each modality, and the improvement may also reflect concomitant photoprotection, seasonal variation in ultraviolet exposure, or regression to the mean.

Focused ultrasound induces collagen and elastin remodeling at deeper tissue planes and produces lifting and tightening [14, 15]. However, these references report microfocused ultrasound with visualization, which differs from the dot-mode system used here in transducer design and energy delivery, so mechanistic extrapolation to this protocol is indirect. RF microneedling improves skin quality, photoaging, and pigmentary disorders through dermal remodeling [8-11]. Bacteria-drived extracellar vesicle preparations are proposed to support tissue repair through regenerative signaling [12, 13] , although clinical evidence in dermatology remains limited and heterogeneous. Furthermore, neither cited source is shown to address vesicles of bacterial origin, so extrapolation to the preparation used in this series is indirect. A pilot study suggested improved pore size and skin texture with microneedling plus bacteria-drived extracellar vesicle, although interpretation is limited by its uncontrolled design and small sample size [18].

The concept of multimodal treatment is supported by previous combination EBD studies. One pilot comparative study combined high-intensity focused ultrasound with microneedling-assisted delivery of EVs and polydeoxyribonucleotide [19], and a retrospective analysis of 40 cases combined an exosome-containing skin booster with conventional microneedling [20]. Neither study used RF microneedling, so these data support the general principle of combining modalities rather than the protocol reported here. Radiofrequency combined with single-dot ultrasound improved skin rejuvenation in a split-face trial with blinded response evaluation [16], and microfocused ultrasound combined with microneedle fractional RF improved facial rejuvenation in a randomized split-face study [17]. Real-world outcomes with a multi-modality platform have also been reported [3].

This study has several limitations. The sample was small, the design retrospective and uncontrolled, assessment was unblinded, and outcomes relied on qualitative photographic review without a validated severity index. Concomitant photoprotection and topical depigmenting therapy were not recorded, and both are established determinants of melasma outcome. The activating solution applied during RF microneedling contains recognized depigmenting agents, so the pigmentary change cannot be attributed to the vesicle component or to the devices. The number of RF microneedling sessions and the ultrasound depth settings differed between patients, so a single uniform protocol was not evaluated, and total observation time from baseline differed accordingly. All treatments were performed by one operator at one center. Follow-up did not extend beyond 4 weeks after the final session, so durability of response and melasma relapse could not be assessed. Prospective controlled studies using modified Melasma Area and Severity Index scoring, blinded evaluators, and follow-up of at least 6 months are required. Retrospective scoring of the existing images by two blinded dermatologists, using the modified Melasma Area and Severity Index and the Global Aesthetic Improvement Scale, would strengthen the present dataset. Hence, the observations of this study are hypothesis-generating and cannot be directly used to establish efficacy, synergy, or benefit relative to single-modality treatment.

4. Conclusion

In this four-patient retrospective series, dot-mode focused ultrasound (LinearZ) followed by RF microneedling with bacteria-derived extracellular vesicle solution (POTENZA and RexoFace) delivery, was associated with investigator-assessed improvement in melasma, skin quality, and signs of facial aging, and was well tolerated over the observation period. Controlled prospective studies with validated severity scoring, blinded assessment, and longer follow-up are needed before efficacy or comparative benefit can be claimed.

Abbreviations

EBD	Energy-based Device
MHz	Megahertz
J	Joule
mJ	Millijoule
mL	Milliliter
mm	Millimeter
RF	Radiofrequency

Author Contributions

Trong Nghia Vo: Data curation, Formal Analysis, Investigation, Writing – original draft, Writing – review & editing

Data Availability Statement

The data supporting the outcome has been reported in this manuscript.

Conflicts of Interest

The author declares no conflicts of interest.

References

[1] International Society of Aesthetic Plastic Surgery (ISAPS). Global Survey 2024: Full Report and Press Releases. Available from: https://www.isaps.org/discover/about-isaps/global-statistics/global-survey-2024-full-report-and-press-releases/ (accessed 21 August 2026).

[2] Chao, J. R., Porter, J. P., Hessler, J. Cosmetic Treatments with Energy-Based Devices in Skin of Color. Facial Plastic Surgery. 2023, 39(5), 496-500. https://doi.org/10.1055/s-0043-1772197

[3] Gold, M., Biesman, B., Cohen, J. L., et al. Real-World Experience Using a Multi-Modality System Using Intense Pulsed Light, Radiofrequency Microneedling, High-Intensity Focused Ultrasound, or Thermal Radiofrequency for Skin Rejuvenation Treatment. Journal of Cosmetic Dermatology. 2024, 23(S3), 1-11. https://doi.org/10.1111/jocd.16577

[4] Jurcevic, J., Ceovic, R. A Multimodal Approach to Facial Rejuvenation: Integrating HA Fillers, Collagen Stimulators, Botulinum Toxin and Energy-Based Devices for Optimal Patient Outcomes. Journal of Aesthetic Medicine. 2026, 2(1), 3. https://doi.org/10.3390/jaestheticmed2010003

[5] Naharro-Rodriguez, J., Bacci, S., Hernandez-Bule, M. L., Perez-Gonzalez, A., Fernandez-Guarino, M. Decoding Skin Aging: A Review of Mechanisms, Markers, and Modern Therapies. Cosmetics. 2025, 12(4), 144. https://doi.org/10.3390/cosmetics12040144

[6] Oku, K. Treatment of Melasma Targeting Dermal-Epidermal Interactions Utilizing High-Intensity, High-Frequency Parallel Ultrasound Beam in Asian Skin. Journal of Cosmetic Dermatology. 2026, 25(4), e70820. https://doi.org/10.1111/jocd.70820

[7] Gu, D., Pan, R., Meng, X., et al. What Lies Behind Melasma: A Review of the Related Skin Microenvironment. International Journal of Dermatology. 2025, 64(2), 256-265. https://doi.org/10.1111/ijd.17453

[8] Kumar, N., Lin, S., Luthra, A., Patel, T., Bhatia, A. C. The Efficacy and Safety of Radiofrequency Microneedling for Melasma: A Systematic Review and Qualitative Evidence Synthesis. Aesthetic Surgery Journal Open Forum. 2026, 8, ojag075. https://doi.org/10.1093/asjof/ojag075

[9] Malarz, D., Czyżewski, Ł., Olczak-Kowalczyk, D. Microneedle Radiofrequency for Skin Rejuvenation: Bridging Image-Derived Metrics and Photographic Assessment. Frontiers in Medicine. 2025, 12, 1710949. https://doi.org/10.3389/fmed.2025.1710949

[10] Imaizumi, A., Fujimaki, A., Kumar, N. A Retrospective Analysis of Radiofrequency Microneedling for Melasma Management in the Japanese Population. Clinical, Cosmetic and Investigational Dermatology. 2026, 19, 601440. https://doi.org/10.2147/CCID.S601440

[11] Kim, H. B., Lee, S. Y., Um, J. Y., Baek, S. Y., Kim, H. O., Kumar, N. Clinical Effects and Safety of Radiofrequency Microneedling for the Management of Melasma: A Retrospective Study. Aesthetic Surgery Journal Open Forum. 2026, 8, ojag143. https://doi.org/10.1093/asjof/ojag143

[12] Li, M., Fang, F., Sun, M., Zhang, Y., Hu, M., Zhang, J. Extracellular Vesicles as Bioactive Nanotherapeutics: An Emerging Paradigm for Regenerative Medicine. Theranostics. 2022, 12(11), 4879-4903. https://doi.org/10.7150/thno.72812

[13] Dhaliwal, N. K., Moothathamby, T., Sokhal, B. S., Gkini, M. A. The Use of Microneedling with Exosomes in Dermatology: A Systematic Review. Journal of Cosmetic Dermatology. 2026, 25, e70881. https://doi.org/10.1111/jocd.70881

[14] Marquardt, K., Hartmann, C., Wegener, F., et al. Microfocused Ultrasound with Visualization Induces Remodeling of Collagen and Elastin Within the Skin. Journal of Cosmetic Dermatology. 2025, 24(1), e16638. https://doi.org/10.1111/jocd.16638

[15] Vachiramon, V., Pavicic, T., Casabona, G., et al. Microfocused Ultrasound in Regenerative Aesthetics: A Narrative Review on Mechanisms of Action and Clinical Outcomes. Journal of Cosmetic Dermatology. 2025, 24(2), e16658. https://doi.org/10.1111/jocd.16658

[16] Byun, J. W., Kang, Y. R., Park, S., Hong, W. Efficacy of Radiofrequency Combined with Single-Dot Ultrasound for Skin Rejuvenation: A Non-Randomized Split-Face Trial with Blinded Response Evaluation. Skin Research and Technology. 2023, 29(9), e13452. https://doi.org/10.1111/srt.13452

[17] Wang, R., Peng, G., Chen, Y., et al. Combined Novel Microfocused Ultrasound and Microneedle Fractional Radiofrequency System for Multilayered Facial Rejuvenation: A Prospective, Randomized, and Split-Face Study. Journal of Cosmetic Dermatology. 2025, 24(10), e70455. https://doi.org/10.1111/jocd.70455

[18] Wan, J., Yoon, S. E., Yi, K. H. The Efficacy of Combined Exosome (Exodew) and Microneedling Treatment for Facial Pore Reduction and Skin Texture Improvement. Plastic and Reconstructive Surgery Global Open. 2025, 13(6), e6849. https://doi.org/10.1097/GOX.0000000000006849

[19] Biskanaki, F., Varvaresou, A., Papageorgiou, E. G., Protopapa, E., Lazaris, A. C. Digital Skin Analysis of Multimodal Skin Rejuvenation with HIFU and Microneedling-Assisted Exosome/PDRN Delivery: A Pilot Comparative Study. Applied Sciences. 2026, 16(14), 7050. https://doi.org/10.3390/app16147050

[20] Cho, B., Bae, K. T., Wan, J., Yi, K. H. Effects of Exosome-Containing Skin Booster and Microneedling Treatment on Facial Aging: A Retrospective Analysis of 40 Cases. Plastic and Aesthetic Nursing. 2026, 46(1), 25-29. https://doi.org/10.1097/PSN.0000000000000631

Biography



Trong Nghia Vo is a Specialist Level I Dermatologist and Lead Physician at Annsthetic Beauty Clinic, specializing in aesthetic dermatology. I graduated with a Doctor of Medicine degree in 2021 and subsequently completed postgraduate training in Dermatology. I have over five years of clinical experience in dermatology and aesthetic medicine, with a particular focus on minimally invasive aesthetic procedures and energy-based dermatological technologies. My clinical interests include skin rejuvenation, pigmentation disorders, acne and acne scars, skin quality improvement, and regenerative aesthetic medicine. I have experience with various energy-based devices, injectable treatments, and combination treatment protocols for facial rejuvenation and skin disorders. My research interests focus on skin regeneration, the skin microbiome, extracellular vesicles, and the integration of energy-based technologies with regenerative strategies. I am actively involved in clinical research, scientific presentations, and international collaborations in dermatology and aesthetic medicine.

Research Field

Trong Nghia Vo: Aesthetic dermatology, Skin rejuvenation, Energy-based dermatological technologies, Skin microbiome, Regenerative aesthetic medicine, Pigmentation disorders, Injectable aesthetic treatments