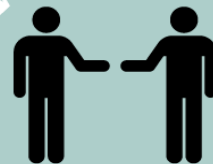


2007 ISHRS *(International Society of Hair Restoration Surgery)* in Las Vegas

“Different Etiology,
Different Solution”



탈모환자창출 프로젝트 제안서 1Day 1Patient II

"Different Etiology, Different Solution" 2007 ISHRS (International Society of Hair Restoration Surgery) in Las Vegas

2007 ISHRS in Las Vegas



Meso-pecia [Mesotherapy for hair loss] for male pattern hair loss

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Introduction

Mesotherapy, as broadly defined, represents a variety of minimally invasive techniques, in which medications are directly injected into the skin and underlying tissue, in order to improve local medical and cosmetic conditions. Although mesotherapy was traditionally employed for pain relief, its cosmetic applications such as fat and cellulite removal, facial skin rejuvenation, and hair loss restoration have recently received attention. However, there is no clinical study evaluating the efficacy of mesotherapy in hair loss.

Objective

This study evaluated the clinical and histological changes associated with our formulation of mesotherapy for male pattern hair loss.

Material and Methods

Eight subjects underwent mesotherapy involving multiple injections of our formula. Treatment was performed at one or two weeks intervals for 3-6 months. All subjects were diagnosed with male pattern hair loss [Norwood's classification III and more] and did not receive any treatment. Before and after-treatment photographs were taken. After the 10th treatment, the changes of hair follicle diameter, hair density and vellus/terminal hair ratio were evaluated by trichophotogram in all the subjects. After the 20th treatment, 2 subjects had before and after-treatment scalp skin biopsies.

Our formula

Lidocaine
Bifunctional (Diphenhydramine)
His solution A (Copper peptide, Zinc sulfate, Pyridoxine HCL, Biotin, D7-riboflavin, Nicotinamide)
His solution B (Vitamin B12, Vitamin C, Hyaluronic acid, and Coenzyme Q10)

Injection Technique
Injection Technique: Meso-Gun with 30G syringe and 30G 25mm needle
Site: Scalp
Depth: 2mm
Rate: 1000psi
Frequency: 1000Hz

Change of Hair Density (Number/cm²) Density of hair, Density of FU, Vellus/Terminal ratio

Case	Before	After 10 treatments	After 20 treatments
1. Hair Density (Number/cm ²)	100	120	140
2. Density of FU	10	12	14
3. Vellus/Terminal ratio	1.0	0.8	0.6

Trichophotogram, Folliculogram

Fig. 1. The area of treatment after 10 sessions.

Biopsy

After the 20th treatment, 2 subjects had before and after-treatment scalp skin biopsies.

Results

Change of Hair Diameter

Case	Before	After 10 treatments	After 20 treatments
1. Hair Diameter (µm)	40	45	50
2. Hair Density (Number/cm ²)	100	120	140
3. Density of FU	10	12	14
4. Vellus/Terminal ratio	1.0	0.8	0.6

Biopsy

Before the treatment (2007.2.2), 2 subjects had scalp skin biopsies. After the 20th treatment (2007.8.13), 2 subjects had scalp skin biopsies.

Before and After Photographs

Case 1: Before treatment (Feb. 16, 2007) vs. After 10 treatments (Aug. 12, 2007)
Case 2: Before treatment (April 20, 2007) vs. After 17 treatments (Nov. 2, 2007)
Case 3: Before treatment (Feb. 16, 2007) vs. After 17 treatments (Aug. 12, 2007)
Case 4: Before treatment (Feb. 16, 2007) vs. After 17 treatments (Aug. 12, 2007)

Biopsy

Side effects: Between July 1, 2004 and Aug 31, 2007, Meso-pecia was applied to 722 patients. Among the following patients, there was 1 case of slight erythema. There was no infection, scarring, pruritus or severe allergic reaction.

Discussions

Supposed action mechanism of Meso-pecia

Conclusion

This study suggested that Meso-pecia is an effective and safe treatment method for male pattern hair loss.

Other Effects of Meso-pecia

- Long-term treatment of Meso-pecia showed a more noticeable effect.
- A synergistic effect may be observed in male pattern hair loss through combination with other medications or surgical treatments.
- Mesotherapy can be used as a treatment of frontal pattern hair loss and alopecia areata.

Long-term treatment of Meso-pecia with Finasteride

Before treatment (Nov. 2, 2006) vs. After 40 treatments (Nov. 2, 2006)
Before treatment (Nov. 2, 2006) vs. After 40 treatments (Nov. 2, 2006)
Before treatment (Nov. 2, 2006) vs. After 40 treatments (Nov. 2, 2006)

Meso-pecia after Hair transplantation

Before hair transplantation (Jan. 16, 2006) vs. After 17 (20) sessions (Nov. 2, 2007)



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Introduction

Mesotherapy, as broadly defined, represents a variety of minimally invasive techniques, in which medications are directly injected into the skin and underlying tissue, in order to improve local medical and cosmetic conditions.

Although mesotherapy was traditionally employed for pain relief, its cosmetic applications

such as fat and cellulite removal, facial skin rejuvenation, and hair loss restoration have recently received attention. However, there is no clinical study evaluating the efficacy of mesotherapy in hair loss.

Material and Methods

Eight subjects underwent mesotherapy involving multiple injections of our formula. Treatment was performed at one or two weeks intervals for 3-6 months. All subjects were diagnosed with male pattern hair loss [Norwood's classification III and more] and did not receive any treatment. Before and after-treatment photographs were taken. After the 10th treatment, the changes of hair follicle diameter, hair density and vellus/terminal hair ratio were evaluated by trichotogram in all the subjects, After the 20th treatment, 2 subjects had before and after-treatment scalp skin biopsies.

Our formula

Lidocaine

Buflomedil [Vasodilator]

Bio Solution A [Copper peptide, Zinc sulfate, Pyridoxine HCL, Biotini, D-Panthenol, Nicotinamide]

Bio Solution B [16Vitamins, 4 minerals and 22 amino acids, 3 Coenzymes, Hyaluronic acid, and Glutathion]

Injection Technique

Injection Technique Meso Gun with 5ml syringe and 30G 13mm needle.



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Trichophotogram : Folliscope

8 patients took Meso-pecia after 4 points were tattooed.
We measured [1] the change of hair diameter, [2] the change of hair density, FU density, and Vellus/Terminal Ratio at before and after the 10th treatment

Biopsy

After the 20th treatment, 2 subjects had before and after-treatment scalp skin biopsies

Results

Mesopecia is the most efficacious on the frontal area on which miniaturization is more progressive. There is statistically significant difference between before the treatment and after only 10 treatments.

Side effects

Between July 1, 2004 and Aug 31, 2007, Meso-pecia was applied to 372 patients. Among the follow-up patients, there was 1 case of slight erythema. There was no infection, shedding phenomenon or severe allergic reaction.

Meso-pecia [Mesotherapy for hair loss] for male pattern hair loss
Young-Ran Lee MD, PhD, ABHRS, Jho Ryou MD, PhD, Sung-Jig Lim MD, PhD.
Hair Transplant Center, Dermatologic and Plastic Surgery Clinic, Department of Pathology, College of Medicine, Kyung Hee University, Seoul, Korea

Introduction
Mesotherapy, as broadly defined, represents a variety of minimally invasive techniques, in which medications are directly injected into the skin and underlying tissues, in order to improve local metabolic and cosmetic conditions. Although mesotherapy was originally employed for pain relief, its cosmetic applications such as fat and cellulite removal, local skin rejuvenation, and hair loss restoration have recently received attention. However, there is no evidence of evaluating the efficacy of mesotherapy in hair loss.

Objective
This study evaluated the clinical and histological changes associated with our formulation of mesotherapy for male pattern hair loss.

Material and Methods
Eight subjects under recent mesotherapy showed multiple recurrences of our formula. Treatment was performed at one or two weeks intervals for 2-5 months. All subjects were diagnosed with male pattern hair loss. (Narrowly classification II and more) and did not receive any treatment before and after treatment photographs were taken. After the 10th treatment, the change of hair diameter, hair density and vellus/terminal hair ratio were evaluated by trichophotogram at 10 weeks after the 10th treatment. 2 subjects had before and after-treatment scalp skin biopsies.

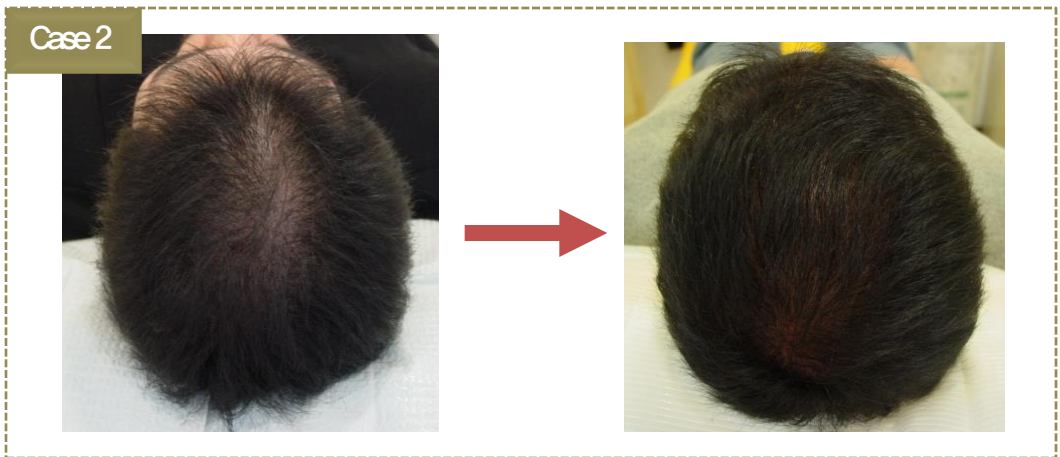
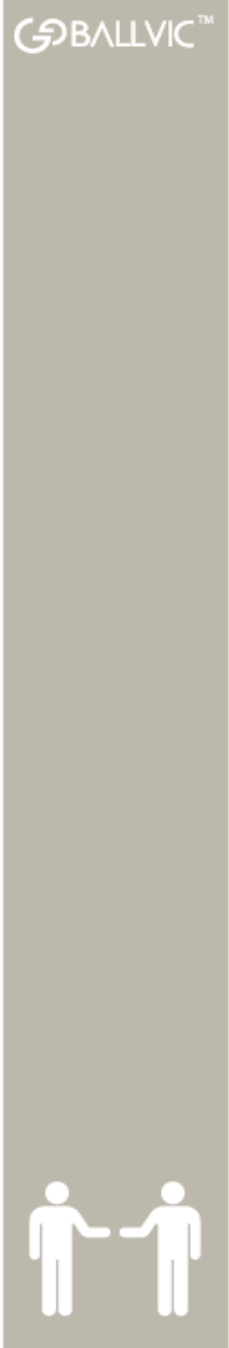
Results
After the 10th treatment, 2 subjects had before and after-treatment scalp skin biopsies.

Conclusion
Mesotherapy is the most efficacious on the frontal area on which miniaturization is more progressive. There is statistically significant difference between before the treatment and after only 10 treatments.

Other Effects of Meso-pecia
A preliminary study of mesotherapy for hair loss showed that it is effective for hair loss restoration. In addition, it is effective for skin rejuvenation and cellulite removal.

Conclusions
Mesotherapy is the most efficacious on the frontal area on which miniaturization is more progressive. There is statistically significant difference between before the treatment and after only 10 treatments.

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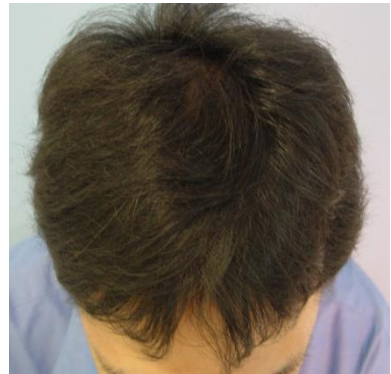


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Case 3



Case 4





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Case 7



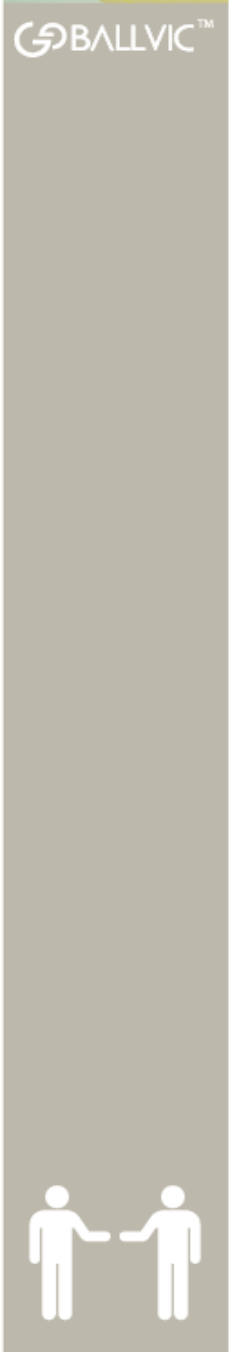
Case 8





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Injection Technique

Injection Technique Meso Gun with 5ml syringe and 30G 13mm needle

Injection	Our Method	Original Method
Site	IDS(Intra Dermal Superficial)	IDS(Intra Dermal Superficial)
Technique	Point by Point	Point by Point
Depth(mm)	1~2	3~4
Pain	Less painful	May have pain
Erythema, Fibrosis or Allergic Rx.	Rare	May induce

Change of Hair Diameter

	Frontal	Middle	Vertex	Occipital
Change of Mean DM(μ m)	13.8	7.7	11.8	1.0
Standard Deviation(μ m)	5.6	4.0	10.1	2.7
Change in %	24.3	13.0	20.8	1.3
T test	P<0.01	P<0.096	P<0.05	P<0.775

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Change of Hair Density

	Frontal	Middle	Vertex	Occipital
Increased Number(No./cm ²)	19	8	10	2
Standard Deviation(No./cm ²)	7.1	4.3	6.3	4.2
Change in Hair Density (%)	13.7	5.6	6.8	1.2
T test	P<0.01	P<0.108	P<0.144	P<0.820

Transition of V/T ratio on Frontal Points

	Before Treatment	After 10 treatments
Terminal Hair(%)	49.0	79.4
Vellus Hair(%)	51.0	20.6
V/T ratio	1.04	0.26





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Change of FU composition on Frontal Points

	Before Treatment		After 10 Treatment	
	No./11.2mm ²	%	No./11.2mm ²	%
1 hair FU	81	79.4	74	67.9
2 hair FU	20	19.6	32	29.4
3 hair FU	1	1.0	3	2.8
Total	102	100.0	109	100.0

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Mesopeca is the most efficacious on the frontal area on which miniaturization is more progressive. There is statistically significant difference between before the treatment and after only 10 treatments.



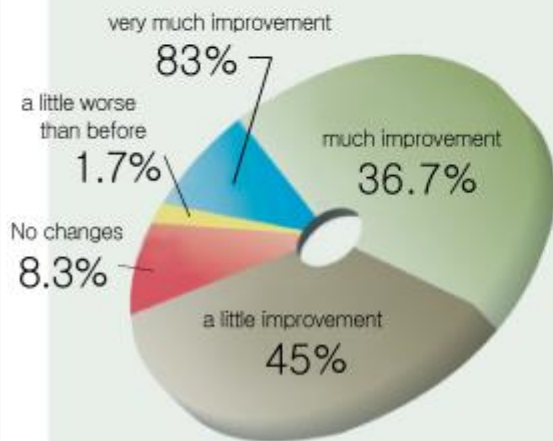


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alopecia treatment onset rate 89.8% in 3 months

1. Alopecia treatment in the hospital is being operated Initial Intensive Therapy for fast onset.
2. Alopecia treatment must start at early alopecia that makes high effect and decrease the cost of the treatment.
3. IIT treatment in this hospital is combine therapy which are verified medication, use and management of effective active products.



average time for onset of alopecia treatment 5.82 Weeks

effect of treatment	time for onset
Feel the hair strength	4.23 w
Decreased number of the hair lose	3.98 w
Certainly thickened the hair	5.69 w
Find new vellus hair	7.20 w
average	5.82w

*It was reported after IIT patients felt the hair healthy average 5.82 weeks later.

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〈사내교육용〉 대외비

BallVic PT88 & PT66 Application Guide for Alopecia.

- PT88: DHT Blockers
- PT66: Minerals, Amino acids, Vitamins
- Upgrade with Growth Factors Regulator!!!**

The diagram illustrates the hair growth cycle with the following key points:

- Anagen (Anagen):** The active growth phase. It includes 'Early anagen' and 'Anagen'. Key features include 'matrix cell' (毛母細胞), 'dermal papilla' (毛乳頭細胞), and 'blood vessel'.
 - ③ Stimulation of BMP-2, VEGF gene expression (Hair shaft formation signals: BMP, VEGF, Wnt, Notch, etc.)
 - ② Inhibition of TSR activity
- Catagen (Catagen):** The regression phase.
 - ④ Suppression of FGF-5 gene expression
 - Transition signals to Catagen: FGF-5, Hairless, VDR, etc.
- Telogen (Telogen):** The resting phase.
 - ① Proliferation of Dermal papilla cells
 - ④ Stimulation of FGF-7 gene expression
 - Transition signals to Anagen: FGF-7, HGF, IGF-1, FGF-18, Shh, Wnt, etc.

■ 원내의 Advanced Transdermal Delivery System을 이용한 Alopecia Managing Tips. ■



PT Mixing Guide based on Hamilton-Norwood Scale

Types of Alopecia	Ratio	
	PT88	PT66
MPHL (Hamilton-Norwood Pattern)	4	1
FPHL (Ludwig Pattern)	2	3
Alopecia Areata	2.5	2.5
Telogen Effluvium	1	4



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