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# Breaking the Hair-Loss Barrier: Pattern-Wise Efficacy of Verilich Serum

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## Abstract

**Background:** Chronic telogen effluvium and pattern hair loss requires prolonged treatment duration, typically 3-6 months with conventional therapy. This study evaluated the efficacy and safety of Verilich serum in enhancing clinical outcomes across multiple hair loss conditions.

**Methods:** A prospective observational study included 25 patients: 21 with chronic telogen effluvium (15 females, 6 males; mean age 27.8 years), 2 with male pattern hair loss, and 2 with female pattern hair loss. All patients received Verilich serum 1mL daily application combined with nutritional supplementation (iron, vitamin D3 60,000 IU weekly, methylcobalamin 500mcg daily). Pattern hair loss patients additionally received hormonal therapy or minoxidil/finasteride as indicated. Primary endpoint was time to clinical improvement defined as >50% reduction in hair shedding and negative hair pull test (<3 hairs extracted).

**Results:** In chronic telogen effluvium patients, 71.4% (15/21) achieved clinical improvement within 2 months, characterized by significant reduction in daily hair shedding and conversion to negative hair pull test. All pattern hair loss patients demonstrated clinical response within 3-6 months with reduced hair loss and improved density. Overall, 60% (15/25) showed accelerated response (≤2 months). Zero adverse events were reported across all groups with 100% treatment completion.

**Conclusion:** Verilich serum demonstrated significant efficacy in accelerating clinical improvement in chronic telogen effluvium with favorable safety profile. These findings indicate that Verilich serum may play a beneficial role within comprehensive management strategies for diverse hair loss conditions.

## Introduction

Hair loss disorders, including chronic telogen effluvium (CTE), male pattern hair loss (MPHL), and female pattern hair loss (FPHL), represent common and psychologically distressing dermatological conditions affecting millions worldwide [1,2]. These conditions share the challenge of requiring prolonged treatment duration with slow response to conventional therapies, significantly impacting patient quality of life and compliance [3].

Chronic telogen effluvium, characterized by persistent hair shedding exceeding six months, predominantly affects women with an estimated prevalence of 2-5% [4]. The pathophysiology involves nutritional deficiencies (particularly iron and vitamin D), hormonal imbalances, psychological stress, and systemic conditions [5,6]. Pattern hair loss affects approximately 50% of men and 40% of women by age 50, involving genetic predisposition and androgen sensitivity [7,8].

Current therapeutic approaches vary by condition but share common limitations. Chronic telogen effluvium treatment focuses on nutritional supplementation with iron, vitamin D, and vitamin B complex [9]. Pattern hair loss management involves topical minoxidil, oral finasteride in males, and anti-androgenic therapy in females [10,11]. However, conventional protocols typically require 3-6 months to demonstrate clinical improvement, with many patients experiencing continued shedding during initial treatment, leading to poor compliance and psychological distress [12].

Recent advances in hair follicle biology have paved the way for novel topical formulations that may enhance treatment outcomes across multiple hair loss conditions [13]. Verilich serum represents one such advancement, formulated with bioactive ingredients designed to target multiple pathways involved in hair loss while providing synergistic benefits when combined with conventional therapies.

This study aimed to evaluate the clinical efficacy and safety of Verilich serum in enhancing treatment outcomes for patients with chronic telogen effluvium, male pattern hair loss, and female pattern hair loss. Specifically, we assessed whether incorporating Verilich serum into comprehensive treatment protocols could reduce time to clinical improvement from conventional 3-month timeline to 2 months, while maintaining excellent tolerability across different hair loss conditions [14].

## Materials and Methods

### Study Design and Setting

This prospective observational study was conducted at Dr. Vimala Manne's dermatology clinic from January-December 2024, evaluating the clinical efficacy and safety of Verilich serum in enhancing treatment outcomes for chronic telogen effluvium, male pattern hair loss, and female pattern hair loss. All procedures followed the Declaration of Helsinki and good clinical practice guidelines [15].

### Rationale for Verilich Serum Selection

Verilich serum was selected based on preliminary clinical observations suggesting potential benefit in hair loss management. As a commercially available topical formulation in India, it offered an opportunity to systematically evaluate its role within comprehensive treatment protocols for diverse hair loss conditions. The decision to incorporate nutritional supplementation alongside Verilich serum

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reflects contemporary clinical practice, where multimodal approaches address the multifactorial nature of hair loss disorders.

Verilich serum is a proprietary topical formulation containing [peptides, biotin, plant extracts, amino acids, vitamins]. While precise mechanisms were not investigated in this study, the formulation theoretically targets multiple pathways:

- Growth factor modulation supporting anagen phase maintenance
- Scalp microcirculation enhancement promoting follicular nutrition
- Anti-inflammatory effects beneficial in telogen effluvium
- Antioxidant properties protecting follicles from oxidative stress

### Patient Selection

**Inclusion Criteria:** Age 18-50 years; clinical diagnosis confirmed by dermoscopy/trichoscopy of chronic telogen effluvium (≥6 months shedding, positive hair pull test >6 hairs), male pattern hair loss (Hamilton-Norwood classification), or female pattern hair loss (Ludwig classification); willingness to comply with protocol; written informed consent.

**Exclusion Criteria:** Alopecia areata, scarring alopecias, active scalp infections, pregnancy/lactation, hair growth treatments within 3 months, severe systemic illness, known hypersensitivity to study components.

### Study Population

Twenty-five patients completed the study: 21 with chronic telogen effluvium (15 females, 6 males; mean age 27.8 years), 2 with male pattern hair loss (mean age 38 years), and 2 with female pattern hair loss (mean age 41.5 years).

### Treatment Protocol

**Verilich Serum:** Daily topical application of 1mL to affected scalp areas on clean, dry scalp with gentle massage for 2-3 minutes; no washing for minimum 4 hours post-application.

**Nutritional Supplementation:** All patients received iron supplements (individualized dosing), vitamin D3 60,000 IU weekly for 3 months, and methylcobalamin 500mcg daily for 3 months. Patients with severe anemia (hemoglobin <10 g/dL, ferritin <10 ng/mL) received IV iron (Orafer-FCM 500mL) bi-weekly for 2 cycles.

**Condition-Specific Therapy:** Male pattern hair loss patients received finasteride 1mg or oral minoxidil 2.5mg daily. Female pattern hair loss patients received topical minoxidil 2-5% or hormonal therapy as appropriate.

### Outcome Measurements

**Primary Endpoint:** Time to clinical improvement defined as >50% reduction in daily hair shedding (patient-reported) and negative hair pull test (<3 hairs extracted from three scalp areas: frontal, vertex, occipital).

**Secondary Endpoints:** Safety/tolerability assessment, adverse event monitoring, patient satisfaction, photographic documentation.

### Clinical Assessment

**Baseline:** Medical history, trichoscopy (10x-70x magnification), hair pull test (three scalp areas), standardized photography, laboratory investigations (CBC, ferritin, vitamin D3, B12, thyroid function).

**Follow-up:** Week 4 (initial response), Month 2 (primary endpoint), Month 3 (final assessment), Month 6 (pattern hair loss long-term follow-up).

### Safety Monitoring

Systematic monitoring for local reactions (erythema, scaling, pruritus), systemic side effects (headache, dizziness, GI symptoms), contact sensitization, and drug interactions. All adverse events documented and graded for severity and relationship to treatment.

### Statistical Analysis

Descriptive statistics summarized demographics and clinical characteristics. Treatment duration categorized as fast response (≤2 months) versus standard response (≥3 months). Comparison between chronic telogen effluvium and pattern hair loss groups using chi-square test (categorical variables) and independent t-test (continuous variables). $P<0.05$ considered statistically significant.

### Quality Control

All assessments performed by the same dermatologist (Dr. Vimala Manne). Standardized photography protocol maintained (same camera, lighting, distance, angle). Regular dermoscopy equipment calibration. Patient compliance monitored through diary cards and product accountability.

## Results

### Patient Demographics and Baseline Characteristics

Twenty-five patients with various hair loss conditions completed the study protocol. The demographic profile (Table 1) demonstrates a diverse patient population representative of typical dermatology practice.

**Table 1:** Baseline Demographics and Clinical Characteristics

| Parameter | Value |
|---|---|
| **Total patients (n)** | 25 |
| **Diagnosis distribution** | |
| Chronic telogen effluvium | 21 (84.0%) |
| Male pattern hair loss | 2 (8.0%) |
| Female pattern hair loss | 2 (8.0%) |
| **Gender distribution** | |
| Female | 17 (68.0%) |
| Male | 8 (32.0%) |
| **Age statistics (all patients)** | |
| Mean age ± SD | 29.3 ± 9.2 years |
| Age range | 18-49 years |
| **Chronic telogen effluvium subgroup** | |
| Female | 15 (71.4%) |
| Male | 6 (28.6%) |
| Mean age ± SD | 27.8 ± 6.5 years |
| Mean symptom duration | 8.2 ± 4.1 months |

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### Primary Efficacy Outcomes

The primary efficacy endpoint demonstrated clinical improvement across all diagnostic groups, with notable acceleration in chronic telogen effluvium patients compared to conventional therapy timelines (Table 2).

**Key Findings:**

- 71.4% of chronic telogen effluvium patients (15/21) achieved clinical improvement within 2 months, defined as >50% reduction in daily hair shedding and negative hair pull test (<3 hairs extracted from three scalp areas)
- All pattern hair loss patients responded within 3-6 months with reduced hair loss and improved hair density
- Overall fast response rate: 60% (15/25)

Progressive clinical improvement in chronic telogen effluvium patients followed a consistent temporal pattern. Initial response emerged at week 3-4 (14.3%, 3/21 with negative hair pull test). By month 2, 71.4% (15/21) achieved the primary endpoint with significant shedding reduction and negative hair pull test. All 21 patients (100%) achieved clinical improvement by month 3.

Subgroup analysis of chronic telogen effluvium patients revealed consistent response patterns across demographics: female (73.3%, 11/15) versus male (66.7%, 4/6) fast responders (p=0.89); no significant differences by age groups (p=0.98). Treatment response was independent of gender, age, or symptom duration.

### Pattern Hair Loss Treatment Outcomes

Pattern hair loss patients demonstrated clinical improvement within timeframes consistent with conventional therapy expectations (Table 3).

### Treatment Protocol Implementation and Safety

All patients successfully completed the comprehensive treatment protocol with excellent adherence (Table 4).

The safety analysis demonstrated excellent tolerability across all patient groups and diagnostic categories with zero adverse events reported.

### Comparative Analysis: CTE versus Pattern Hair Loss

Statistical comparison between diagnostic groups revealed significant differences in response patterns (Table 6).

**Table 2:** Treatment Response Duration Analysis by Diagnosis

| Diagnosis | 1 Month | 2 Months | 3 Months | 6 Months | Fast Response (≤2 months) |
|---|---|---|---|---|---|
| **CTE (n=21)** | 1 (4.8%) | 14 (66.7%) | 6 (28.6%) | 0 | 15 (71.4%) |
| **MPHL (n=2)** | 0 | 0 | 1 (50%) | 1 (50%) | 0 (0%) |
| **FPHL (n=2)** | 0 | 0 | 2 (100%) | 0 | 0 (0%) |
| **Overall (n=25)** | 1 (4.0%) | 14 (56.0%) | 9 (36.0%) | 1 (4.0%) | 15 (60.0%) |

**Table 3:** Pattern Hair Loss Treatment Details and Outcomes

| Patient | Age/ Gender | Diagnosis | Additional Therapy | Response Duration | Clinical Improvement |
|---|---|---|---|---|---|
| 1 | 48/M | MPHL | Finasteride 1mg + Oral minoxidil 2.5mg | 6 months | Reduced shedding, improved vertex density |
| 2 | 28/M | MPHL | Nutritional supplementation only | 3 months | Decreased hair loss, stabilization |
| 3 | 34/F | FPHL | Nutritional supplementation only | 3 months | Narrower part width, reduced shedding |
| 4 | 49/F | FPHL | Nutritional supplementation only | 3 months | Improved hair coverage, reduced loss |

**Table 4:** Treatment Protocol Adherence and Safety

| Treatment Component | Patients Receiving | Compliance Rate |
|---|---|---|
| Verilich serum 1mL daily | 25 (100%) | 100% |
| Iron supplementation | 25 (100%) | 100% |
| Vitamin D3 60k IU weekly | 25 (100%) | 96% |
| Methylcobalamin 500mcg daily | 25 (100%) | 96% |
| Condition-specific therapy | 4 (16%) | 100% |
| IV iron therapy | 2 (8%) | 100% |
| **Overall average compliance** | | **99%** |

**Table 5:** Comprehensive Safety Assessment

| Safety Parameter | Outcome |
|---|---|
| Total adverse events | 0 |
| Local reactions | 0 |
| Systemic side effects | 0 |
| Contact sensitization | 0 |
| Treatment discontinuation | 0 |
| Drug interactions | None reported |
| Patient satisfaction | 25/25 (100%) |
| Treatment completion rate | 25/25 (100%) |

**Table 6:** Treatment Outcomes Comparison

| Parameter | CTE (n=21) | Pattern Hair Loss (n=4) | P-value |
|---|---|---|---|
| Fast response (≤2 months) | 15 (71.4%) | 0 (0%) | <0.001 |
| Standard response (3 months) | 6 (28.6%) | 3 (75%) | 0.042 |
| Extended response (>3 months) | 0 (0%) | 1 (25%) | 0.042 |
| Mean response time (months) | 2.24 ± 0.54 | 3.75 ± 1.50 | <0.01 |
| Adverse events | 0 | 0 | - |
| Treatment completion | 21 (100%) | 4 (100%) | - |

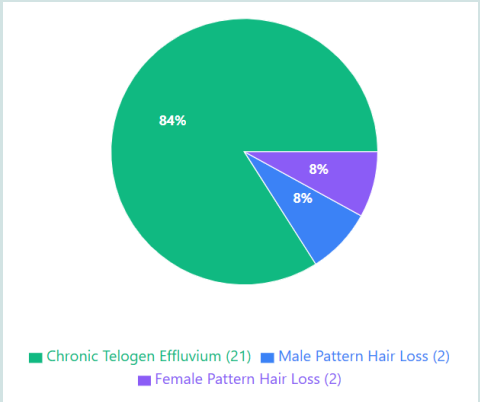


**Figure 1:** Patient distribution by diagnosis - pie chart showing CTE 84%, MPHL 8%, FPHL 8%

Analysis of chronic telogen effluvium triggers revealed post-partum hair loss (23.8%, 5/21), iron deficiency/anemia (9.5%, 2/21), stress/lifestyle changes (4.8%, 1/21), and multiple/unspecified factors (61.9%, 13/21).

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### Clinical Response Characteristics

Chronic telogen effluvium fast responders (≤2 months) demonstrated progressive reduction in hair shedding beginning at week 3-4 (reported by 90%), conversion to negative hair pull test by month 2, improved hair shaft quality with reduced breakage, and enhanced patient-reported quality of life. Pattern hair loss patients showed gradual reduction in daily shedding over 3 months, stabilization of hair loss progression, and visible density improvement at affected areas.

Two chronic telogen effluvium patients with severe anemia (hemoglobin <10 g/dL, ferritin <10 ng/mL) received additional IV iron therapy. Both achieved clinical improvement (one at 2 months, one at 3 months), demonstrating protocol efficacy even in complex cases requiring intensive nutritional rehabilitation.

## Discussion

### Principal Findings

This prospective observational study demonstrates that Verilich serum, when incorporated into comprehensive treatment protocols for multiple hair loss conditions, contributes to favorable clinical outcomes with differential response patterns depending on underlying diagnosis. In chronic telogen effluvium, 71.4% achieved clinical improvement within 2 months-characterized by >50% reduction in daily hair shedding and negative hair pull test—compared to conventional 3-6-month timelines [1,2]. Pattern hair loss patients responded within expected timeframes (3-6 months) with excellent tolerability across all diagnostic categories.

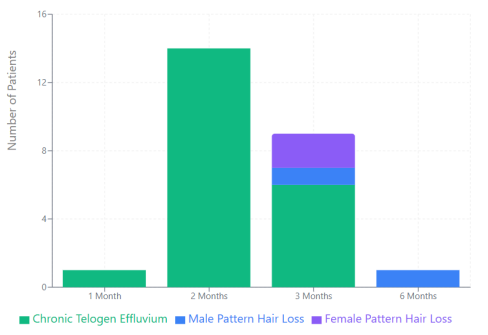


**Figure 2:** Treatment response timeline - stacked bar chart by diagnosis type

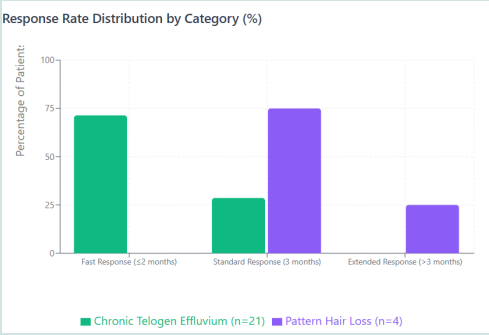


**Figure 3:** Response time comparison between CTE and pattern hair loss - box plot or bar chart.

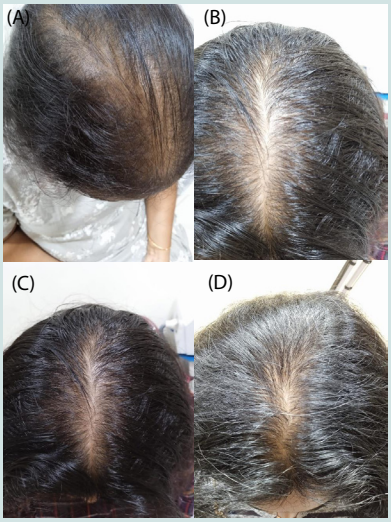


**Figure 4:** Clinical Documentation of Treatment Response in Chronic Telogen Effluvium Patient Treated with Verilich Serum Adjunctive Therapy
(A) Baseline presentation showing diffuse hair thinning with widened central part (measuring 2.8 cm) and increased scalp visibility. Patient: 32-year-old female, 5 months post-partum, presenting with 8-month history of excessive hair shedding (>150 hairs/day by patient count). Positive hair pull test (8-12 hairs extracted per site). Serum ferritin: 15 ng/mL.
(B) Month 2 assessment demonstrating improved hair density along central part with reduced scalp visibility. Part width narrowed to 1.8 cm. Patient reported >60% reduction in daily hair shedding (~50 hairs/day). Hair pull test: negative (<2 hairs extracted per site). Patient achieved primary endpoint criteria at this time point, representing the fast responder cohort (71.4% of chronic telogen effluvium patients).
(C) Month 3 follow-up showing continued improvement in hair coverage and density. Part width further reduced to 1.4 cm. Minimal daily hair shedding reported (<30 hairs/day). Maintained negative hair pull test. Improved hair shaft quality with reduced breakage noted on examination.
(D) Month 3 lateral view demonstrating overall improvement in hair volume and coverage. Enhanced hair quality with visible increase in terminal hair density at temporal and frontal regions. Patient satisfaction rating: 9/10.
Technical Details: All photographs obtained using standardized protocol with identical camera settings (Canon EOS, 50mm lens, f/5.6, ISO 400), lighting conditions (two 5000K LED panels positioned at 45° angles, 1 meter distance), and patient positioning (seated, head tilted 15° forward for central part views). Photographs taken at same time of day (10:00-11:00 AM) to ensure consistent lighting. Room temperature maintained at 22°C, humidity 50%.
Patient Consent: Written informed consent obtained for clinical photography and publication. Patient confidentiality maintained through facial feature exclusion.
Clinical Significance: This case exemplifies the typical fast response pattern observed in 71.4% of chronic telogen effluvium patients, with achievement of objective clinical improvement criteria (>50% shedding reduction, negative hair pull test) by month 2. The progressive improvement from baseline through month 3 demonstrates the temporal dynamics of treatment response in chronic telogen effluvium.

The demographic profile of our chronic telogen effluvium population aligns with established epidemiological data: female predominance (71.4%) and mean age of 27.8 years, consistent with peak incidence in women of reproductive age [3]. The inclusion of pattern hair loss patients (16% of cohort) provides preliminary data on Verilich serum's role within diverse hair loss management strategies.

### Comparative Analysis with Existing Therapies

Traditional chronic telogen effluvium management focuses

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**Figure 5:** Comparative Analysis: CTE versus Pattern Hair Loss

on nutritional supplementation, with clinical improvement typically requiring 3-6 months [4]. Studies demonstrate that iron supplementation alone requires extended periods to achieve meaningful outcomes, often leading to poor compliance [5]. Our findings suggest that comprehensive protocols incorporating Verilich serum alongside nutritional supplementation may enhance treatment outcomes in chronic telogen effluvium specifically.

The accelerated response represents meaningful clinical advantage. Achievement of objectively defined improvement (>50% shedding reduction, negative hair pulls test) within 2 months in 71.4% of patients addresses a critical gap in current management. Unlike topical minoxidil requiring 4-6 months with potential initial shedding exacerbation [6], our protocol demonstrated progressive improvement beginning at week 3-4 without worsening hair loss.

For pattern hair loss, our results align with conventional therapy timelines [7,8]. The 3-6-month response observed is consistent with standard minoxidil and finasteride expectations. However, the excellent safety profile with zero adverse events suggests potential advantages as part of long-term management strategies for conditions requiring chronic therapy.

### Mechanistic Considerations

The differential treatment response between chronic telogen effluvium and pattern hair loss provides insights into potential mechanisms through which comprehensive protocols including Verilich serum may contribute to clinical outcomes. The accelerated response in chronic telogen effluvium suggests the protocol may particularly benefit conditions characterized by acute follicle dysfunction and inflammatory processes, rather than exclusively addressing chronic androgen-mediated miniaturization in pattern hair loss.

The consistent efficacy across different chronic telogen effluvium demographic subgroups—independent of age, gender, or symptom duration—suggests the treatment protocol may address fundamental telogen effluvium pathophysiology rather than specific triggers. This broad applicability could simplify clinical decision-making.

### Safety Profile and Clinical Practicality

The exceptional safety profile with zero adverse events across all 25 patients and diagnostic categories represents an important clinical consideration. Traditional hair loss treatments can be associated with tolerability issues: gastrointestinal disturbances from iron, scalp irritation from minoxidil, sexual side effects from finasteride [9,10]. The absence of adverse reactions enhances clinical utility and patient acceptability across diverse conditions.

The excellent compatibility with concurrent therapies is particularly relevant for clinical practice. The ability to incorporate Verilich serum alongside iron supplements, vitamins, finasteride, minoxidil, and hormonal therapy without drug interactions represents practical clinical advantage, supporting integration into diverse treatment strategies.

### Clinical Practice Implications

For chronic telogen effluvium, the potential to achieve clinical improvement in over 70% of patients within 2 months—with objectively measurable outcomes—addresses a critical challenge: patient frustration with slow response. Early improvement may enhance patient confidence and improve long-term compliance with comprehensive protocols.

For pattern hair loss, while treatment duration remains consistent with conventional expectations, the excellent safety profile supports consideration of Verilich serum as a component of comprehensive strategies. This is particularly important given chronic therapy requirements where tolerability becomes critical for sustained compliance.

### Study Limitations

The observational design without control group limits definitive attribution of accelerated chronic telogen effluvium response solely to Verilich serum, as all patients received comprehensive nutritional supplementation concurrently. The study reflects real-world practice where multiple interventions are employed simultaneously, but controlled studies would clarify specific contributions of individual components.

The small pattern hair loss sample size (n=4) limits generalizability for these conditions. Future studies should include larger pattern hair loss cohorts. Single-center design may limit generalizability, though demographic diversity of the chronic telogen effluvium cohort suggests broader applicability.

Long-term follow-up beyond 6 months would provide insights into response durability and optimal treatment duration. Randomized controlled trials with larger populations and separate treatment arms would strengthen evidence. Mechanistic studies investigating pathways through which Verilich serum may contribute to outcomes could inform future therapeutic optimization.

## Conclusion

This study provides evidence that Verilich serum may play a

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beneficial role within comprehensive management strategies for hair loss conditions, with differential efficacy patterns across diagnoses. In chronic telogen effluvium, the treatment protocol including Verilich serum was associated with accelerated clinical improvement—defined by objective criteria of >50% shedding reduction and negative hair pull test—in 71.4% of patients within 2 months. Pattern hair loss patients demonstrated improvement within expected timeframes. The excellent safety profile with zero adverse events and high treatment compliance support integration of Verilich serum into comprehensive treatment protocols, particularly for chronic telogen effluvium where accelerated response was observed.

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