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Scalp Healing with a Unani Therapeutic Regimen in Pityriasis Capitis: A Case Series

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ABSTRACT:

Pityriasis capitis is a common scalp disorder affecting 50-70% of the global population and has a considerable psychosocial and economic impact. In Unani medicine, it is described as *Huzaz*, caused by temperamental imbalances (*Fasād-i-Mizāj*) and abnormal fluids (*Fāsid rutubāt*). Classical texts recommend sugarcane vinegar and beetroot-borax decoction for treatment, though clinical validation is limited. This case series presents clinical evidence supporting the efficacy of this Unani regimen in managing chronic, relapsing dandruff resistant to conventional therapies. Three patients (aged 20-28 years; two males, one female) presented with persistent scalp itching, burning, and scaling for 2-6 months, unresponsive to antifungal shampoos and corticosteroids. All were diagnosed with pityriasis capitis and treated with a Unani regimen: overnight application of sugarcane vinegar, followed by 30-minute application of beetroot decoction mixed with borax, every third day for 15 days. Symptom severity was assessed using the Visual Analogue Scale (VAS), and trichoscopic evaluation was conducted using the Scalp Photographic Index (SPI). By day 7, patients showed significant improvement (VAS reduced from 7-9 to 1-5). By day 15, two had complete resolution (VAS and SPI: 0); the third showed near-complete relief (SPI-dandruff: 1). No adverse effects were reported. This case series highlights the potential of Unani regimen as safe, and effective approach for pityriasis capitis. The observed outcomes suggest that this regimen may serve as a valuable complementary intervention for dandruff. Further large-scale, controlled studies are needed to substantiate these findings and determine long-term efficacy.

KEYWORDS: Beetroot decoction, Dandruff, Pityriasis capitis, Sugarcane vinegar, Unani Medicine.

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INTRODUCTION:

Pityriasis capitis (dandruff) is a common scalp disorder characterized by disruption of the stratum corneum and inflammatory activation. Its etiology involves multiple factors, including *Malassezia* overgrowth, sebaceous gland hyperactivity, epidermal barrier impairment, and immune dysregulation.[1] Dandruff affects about half the global population, with prevalence increasing due to urbanization.[2] A 2015 U.S. survey reported 50 million cases and an annual expenditure of USD 300 million on over-the-counter treatments.[3] In South Asia, the prevalence reaches 60.1%, and in India, up to 70% of people experience dandruff during their lifetime.[4,5]

In Unani medicine, dandruff is described as *Huzāz*, *Hibriyā*, or *Bafā*. Its causes include *fasād-i-mizāj* (temperament imbalance) and *fasād-i-akhlāt* (humoral imbalance), such as *balgham-i-māliḥ* (saline phlegm) and *dam-i-sawdāwī* (blood mixed with black bile), producing *fāsid rutūbat* (abnormal moisture) in the scalp. *Yubūsat* (dryness) may arise from *sū'-i-mizāj sadā* (simple deranged temperament), while *fāsid khoon* (impure blood) and *tez maddah* (acrid humour) can cause scalp moisture.[6] It may also result from *akhlaṭ-e-radiyah* (morbid matter) or secondary systemic conditions.[7,8,9]

Ibn Sīnā, in *Al-Qānūn fi'l-Ṭibb*, describes *Huzāz* as scalp scaling with shedding, similar to descriptions in *Ghina Muna*, *Kitāb al-Mansūrī*, and *Kitāb al-Ḥāwī*.[6,10,11] Classical Unani texts recommend sugarcane vinegar and beetroot decoction mixed with borax as an effective scalp wash for dandruff.[12] This case series clinically validates their efficacy in managing *Pityriasis capitis*.

Patient Information, Diagnostic Assessment and Timeline of Care

Case 1: A 27-year-old male presented to the dermatology OPD at the National Institute of Unani Medicine (NIUM) Hospital with severe scalp itching and burning for 2–3 months, disturbing his sleep. He had no chronic illnesses or prior medication use. Symptoms began with mild itching three months earlier, progressing to burning and scaling after one month. Over-the-counter medicated shampoos provided only temporary relief (1–2 days).

On examination, mild scalp erythema from scratching was noted. VAS score was 7/10, and trichoscopy (SPI) showed moderate dryness (score 2) and prominent dandruff with scaling (score 3), with no oiliness, erythema, or folliculitis (all 0).[13] (Figures 1-1a, 1-1b). After Unani therapy, marked improvement occurred, with complete symptom resolution within 15 days.

Case 2: A 28-year-old female presented to the dermatology OPD at NIUM Hospital with severe scalp itching and burning for six months, worsening at night and after spicy food. She had no comorbidities. Initially ignored, her symptoms progressed, and over-the-counter shampoos (ketoconazole, coal tar) gave only brief relief (1–2 days). Later antifungal, steroid, and antihistamine therapy provided partial (30–50%) but temporary improvement.

At presentation for Unani therapy, the VAS score was 8/10. Trichoscopy showed dryness (SPI: 2) and prominent dandruff with scaling (SPI: 3), without oiliness, erythema, or folliculitis (all 0) (Figures 1-2a, 1-2b). Marked improvement was seen within seven days, with complete resolution by day 15.

Case 3: A 20-year-old male presented to the dermatology OPD at NIUM Hospital with a four-month history of worsening dandruff, aggravated at night and after spicy food intake. He was otherwise healthy, with no systemic illness. Initially, he noticed mild itching and fine flakes, which progressed to marked flaking, dryness, and occasional oiliness. Over-the-counter shampoos provided only temporary relief. Due to recurrence, he sought Unani treatment in the fourth month.

At presentation, the VAS score was 9/10. Trichoscopy revealed significant dandruff with visible scaling (SPI: 3) and no dryness, oiliness, erythema, or folliculitis (all 0) (Figures 1-3a, 1-3b). Marked improvement was observed within seven days, with near-complete resolution by day 15.

THERAPEUTIC INTERVENTION:

The regimen involved applying 10 mL of sugarcane vinegar to the scalp at bedtime and leaving it overnight for about 8–10 hours. In the morning, a beetroot decoction prepared by washing, cutting, and grinding 100 g of fresh beetroot, then boiling it with 100 mL of water until the volume was reduced to approximately 100 mL, was mixed with 5 g of borax (Bora Armani).[12] This mixture was applied to the scalp for 30 minutes before rinsing. The treatment was continued daily for 15 days. The sugarcane vinegar used was commercially procured, and no other topical or systemic treatments were administered.

Follow-up and Outcome

Case 1: By Day 7, the patient showed marked improvement with reduced itching and burning (VAS: 7→4). Trichoscopic evaluation (SPI scale) showed complete resolution of dryness (score 0) and minimal flakes (SPI: 1) (Figures 1-1c, 1-1d, 2). By Day 15, the patient achieved complete symptom resolution (VAS: 7→0). Trichoscopy confirmed full recovery with all SPI parameters—dryness, dandruff, erythema, and folliculitis—scoring 0. No scaling, redness, or inflammation was observed, indicating full restoration of normal scalp condition (Figures 1-1e, 1-1f, 2).

Case 2: At Day 7, the patient demonstrated near-complete symptomatic relief (VAS: 1/10), complete resolution of dryness (SPI: 0), and minimal residual dandruff (SPI: 1) (Figures 1-2c, 1-2d and 2). By day 15, complete clinical resolution was achieved, with all SPI parameters normalized to 0 and full disappearance of symptoms (VAS: 0) (Figures 1-2e, 1-2f and 2).

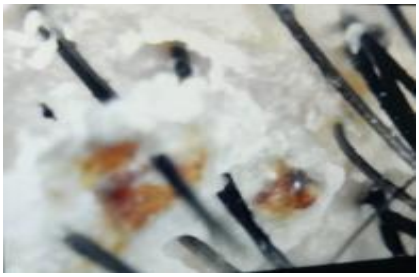
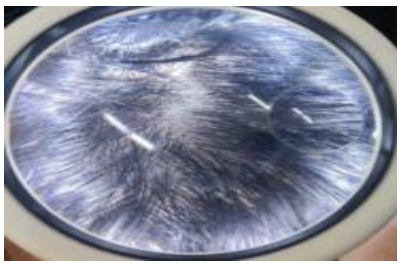
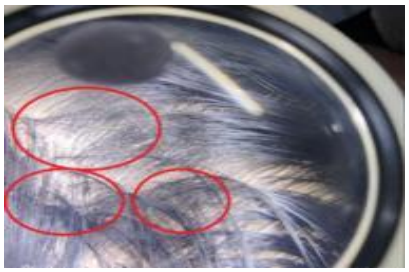
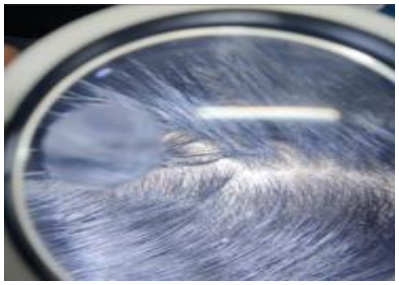
Case 3: By Day 7, symptom severity had reduced significantly (VAS: 5/10), with residual dandruff noted (SPI: 2) (Figures 1-3c, 1-3d). At the final evaluation on Day 15, the patient exhibited near-complete resolution, with only minimal dandruff remaining (SPI: 1, indicating slight scaling) and complete relief from itching and burning (VAS: 0) (Figures 1-3e and 1-3f and 2). A summary of the patient information, clinical findings, and treatment outcomes is presented in Table 1.

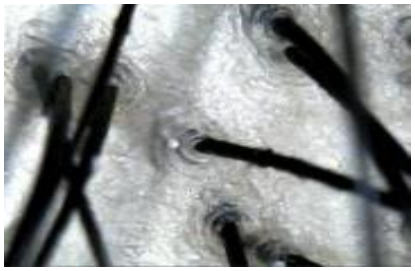
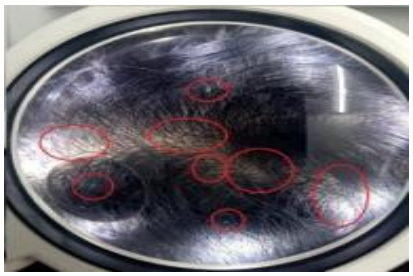
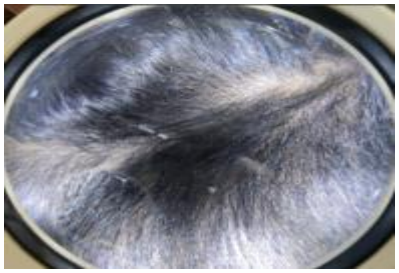
Table-1: Summary of Patients' Information, Clinical Findings, and Treatment Outcomes

Parameter	Case 1	Case 2	Case 3
Age/Sex	27 / Male	28 / Female	20 / Male
Duration of Symptoms	2-3 months	6 months	4 months
Main	Severe scalp	Severe scalp itching, burning	Intense scalp itching,

Complaints	itching, burning sensation	sensation	burning sensation
Symptom Pattern	No specific timing; severe enough to disturb sleep	Nocturnal exacerbation; worsens after spicy food	Nocturnal exacerbation; worsens after spicy food
Past Medical History	No diabetes, hypertension, thyroid disorders; no prior medication	No diabetes, hypertension	No diabetes, hypertension
Self-Treatment	OTC medicated shampoos; transient relief (1-2 days)	OTC shampoos (ketoconazole, coal tar); short relief (1-2 days); prescription antifungals/steroids/antihistamines, partial relief (30-50%)	OTC anti-dandruff shampoos (likely ketoconazole/zinc pyrithione); temporary relief
Onset & Progression	Mild itching → burning & scaling after 1 month → persistent symptoms despite OTC shampoos	Initially ignored → progressed after 3 months → partial relief with conventional therapy but relapsed on tapering	Mild itching/flaking → increased flaking/dryness/oiliness by month 2 → recurrence after OTC shampoo use
VAS Score at Presentation	7/10	8/10	9/10
Trichoscopic Findings (SPI)	Dryness: 2; Dandruff: 3; Oiliness: 0; Erythema: 0; Folliculitis: 0	Dryness: 2; Dandruff: 3; Oiliness: 0; Erythema: 0; Folliculitis: 0	Dryness: 0; Dandruff: 3; Oiliness: 0; Erythema: 0; Folliculitis: 0
Treatment Outcome	Marked improvement within 15 days; complete resolution	Significant improvement within 7 days; complete resolution by day 15	Noticeable improvement within 7 days; near-complete resolution by day 15

Figure-1: Trichoscopic and Magnifying Images of the Cases Showing Improvement Over Time

Case No.	Visitation days	A. Trichoscopic Images	B. Magnifying images
Case No. 1	Baseline	1a 	1b 
	Fist Follow-up (Day 7)	1c 	1d 
	Last Follow-up (Day 15)	1e 	1f 
Case No. 2	Baseline	2a 	2b 
	Fist Follow-up (Day 7)	2c 	2d 

	Last Follow-up (Day 15)	2e 	2f 
Case No.3	Baseline	3a 	3b 
	Fist Follow-up (Day 7)	3c 	3d 
	Last Follow-up (Day 15)	3e 	3f 

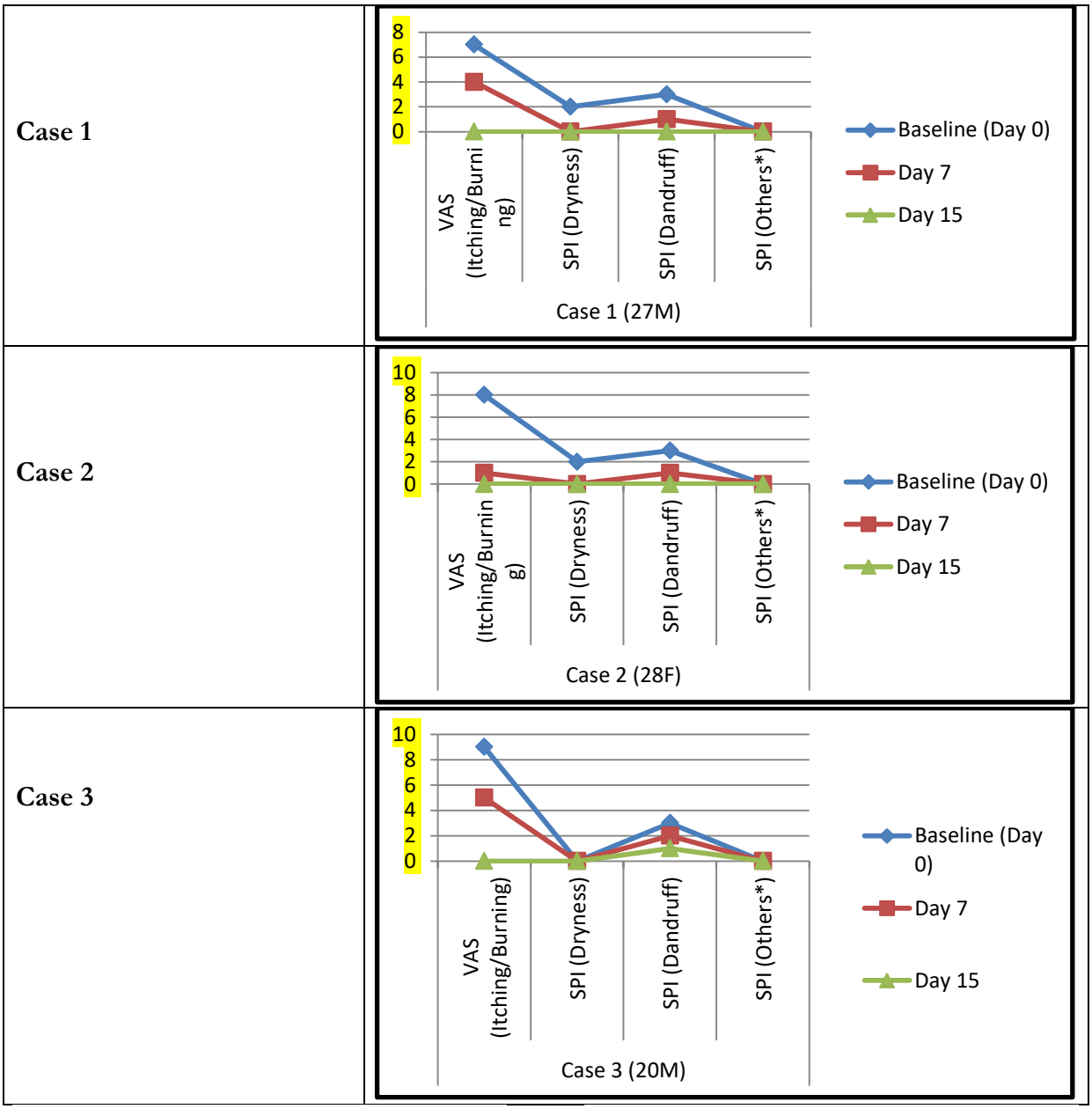
Case 1: 1a-Trichoscopic baseline image showing moderate dryness (SPI score 2), prominent dandruff (SPI score 3). 1b-Magnifying baseline image showing huge scaling and multiple scales. 1c-Trichoscopic first follow-up image showing mild dandruff (SPI score 1) and no dryness (SPI score 0). 1d-Magnifying glass image in first follow up shows mild scaling and small and less flakes. 1e-Trichoscopy image of last follow-up doesn't shows dandruff (SPI score 0). 1f-Magnifying glass image of last follow-up shows no any flakes.

Case 2: 2a-Trichoscopic baseline image showing moderate dryness (SPI score 2), prominent dandruff (SPI score 3). 2b-Magnifying baseline image showing huge scaling and multiple scales. 2c-Trichoscopic first follow-up image showing mild dandruff (SPI score 1) and no dryness (SPI score 0). 2d-Magnifying glass image in first follow up shows mild scaling and small and less

flakes. 2e-Trichoscopy image of last follow-up doesn't shows dandruff (SPI score 0). 2f-Magnifying glass image of last follow-up shows no any flakes.

Case 3: 3a-Trichoscopic baseline image showing prominent dandruff (SPI score 3). 3b-Magnifying baseline image showing huge scaling and multiple scales. 3c-Trichoscopic first follow-up image showing moderate dandruff (SPI score 2). 3d-Magnifying glass image in first follow up shows mild scaling and small and less flakes. 3e-Trichoscopy image of last follow-up shows slight dandruff (SPI score 1). 3f-Magnifying glass image of last follow-up shows very less flakes.

Figure 2: Changes in the VAS (Itching and Burning), SPI Scoring (Dandruff, Dryness) of three Cases Over Time



DISCUSSION:

Pityriasis capitis is a common scalp disorder characterized by itching, burning, and flaking, mainly associated with *Malassezia* overgrowth, sebaceous gland dysfunction, and epidermal barrier impairment.[1] Conventional treatments like ketoconazole and zinc pyrithione shampoos often provide temporary relief but are associated with recurrence, reduced efficacy, and potential side effects on prolonged use.[14] This case series evaluates a Unani regimen using sugarcane vinegar and beetroot decoction with borax as a scalp wash, which showed rapid and significant symptom relief in three patients.

In Unani, *Chuqandar* (beetroot)[15], *Bora Armani* (borax)[16], and *Sirka* (sugarcane vinegar)[17] are classified as *Jālī* (detergent) and *Muḥallil* (resolvent) drugs that cleanse, clarify, and improve skin health by removing blemishes, dead cells, and morbid humors. *Jālī* agents dissolve pathological accumulations, correct deranged temperaments (especially excess cold and moisture), enhance circulation, and promote detoxification. Their mode of action parallels modern exfoliants, depigmenting, and detoxifying agents.[18]

Scientific evidence supports these claims. Adhvaryu et al. reported that borax exhibits strong antibacterial activity against *E. coli*, *P. aeruginosa*, *S. aureus*, and *S. pyogenes*, and antifungal activity against *C. albicans*, *A. niger*, and *A. clavatus* at 5–250 μg/ml concentrations.[19] Sugarcane vinegar contains bioactive compounds—organic acids (notably acetic acid), polyphenols, melanoidins, and tetramethylpyrazine—offering antimicrobial and antioxidant benefits.[20]

Clinically, all three patients showed substantial improvement by day 7, with near-complete resolution by day 15. VAS scores reduced from 7–9 to 0–5, and SPI dandruff scores from 3 to 0–1. The rate of improvement was comparable to or faster than conventional therapies. No adverse effects were reported, indicating an excellent safety profile—particularly important for chronic and recurrent conditions like dandruff.

These findings align with classical Unani concepts, describing *Huzāz* (dandruff) as a result of *fasād-i-mizāj* (humoral imbalance) treatable with *munḍij* (resolvent) and *mushil* (evacuative) therapies. From a modern dermatological standpoint, the results suggest that natural, bioactive agents can reduce inflammation and microbial overgrowth in scalp disorders. This case series highlights the potential of Unani medicine to offer a safe and effective approach to common dermatologic conditions. The combination of sugarcane vinegar and beetroot-borax decoction represents a promising natural alternative for dandruff management.

However, the small sample size and lack of a control group limit generalizability. Future studies should include randomized controlled trials comparing this Unani regimen with standard antifungal treatments, along with chemical and mechanistic analyses to establish optimal dosage, long-term efficacy, and therapeutic pathways.

CONCLUSION:

This case series demonstrates the efficacy of a Unani regimen using sugarcane vinegar and beetroot decoction with borax in managing *Pityriasis capitis*. All three patients showed rapid relief and near-complete resolution by day 15 without adverse effects, though larger trials are needed to confirm these results.

Patient's Perspective

All three patients reported high satisfaction with the Unani treatment, noting rapid relief from itching and scaling, improved sleep, and no side effects.

Ethical Statement:

This study describes a single patient case and does not involve any experimental intervention outside routine clinical care. Therefore, formal ethical approval was not required as per institutional policy.

Informed Consent:

Written informed consent was obtained from the legal guardian of the patient for the publication of the case details, including clinical information and images. Confidentiality and anonymity of the patient have been strictly maintained.

Authors' Contribution:

Sheikh M. Atif Afzal conceptualized the case, documented clinical details, and wrote the initial drafted the manuscript. **Niyazi Abdullah Khizar** managed the patient and contributed to data collection. **Mohd Arshad Jamal** and **Malik Itrat** reviewed and edited the manuscript. All authors approved the final version and are accountable for its content.

Conflict of interest: The author declares that there is no conflict of interest.

Guarantor*:* The corresponding author is the guarantor of this article and its contents.

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