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EVALUATE THE EFFECTIVENESS OF CAPSAICIN CREAM ON PATIENTS WITH HERPES ZOSTER AT 19-8 HOSPITAL

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ABSTRACT

Objective: To evaluate the treatment effectiveness of capsaicin cream on patients with herpes zoster.

Subjects and methods: This was a controlled retrospective, prospective study of patients with herpes zoster treated at 19-8 Hospital from 16 January 2025 to 9 December 2025

Results: The study populations were divided into two groups: a group treated with capsaicin (30 patients) and a control group (30 patients). There were no differences in age, gender, symptoms, or severity of herpes zoster between the two groups before treatment. After treatment, the capsaicin group had a significantly higher pain relief rate (76.7% vs. 3.3% without pain) and a higher patient satisfaction rate (100% vs. 83.3% with a very satisfactory complaint) than the control group.

Conclusion: Capsaicin cream demonstrated promising efficacy and safety in reducing patients' symptoms and improving their quality of life.

Keywords: Herpes zoster, capsaicin cream.

1. INTRODUCTION

Herpes zoster (shingles) is a viral skin disease caused by the Varicella Zoster Virus (VZV), characterized by vesicles, bullae, erythematous papules, pustules, and crusted lesions distributed along the sensory nerve dermatomes, often accompanied by pain along the course of the affected nerve [1], [2]. The prevalence of VZV infection is high, with over 90% of adults being susceptible in the absence of vaccination. Herpes zoster results from the reactivation of latent VZV in sensory ganglia, triggered by temporary immunosuppression or other stressors that allow the virus to become active again [1].

In individuals with normal immune function, the incidence ranges from 10–20%; however, this rate is significantly higher among immunocompromised patients, including those with HIV/AIDS or organ transplantation, in whom the disease also tends to be more severe [1].

Herpes zoster progresses through several clinical stages. Without timely and appropriate treatment, it can lead to a variety of complications such as Ramsay Hunt syndrome, otic zoster with facial paralysis (occurring in up to 20% of untreated cases), necrotizing retinitis, Guillain–Barré syndrome, and transverse myelitis [1]. Although not life-threatening, the disease substantially affects patients' daily activities and quality of life, primarily due to the associated pain.

Capsaicin has long been known for its analgesic properties and is widely used in the management of dermatological conditions, including herpes zoster–related pain. However, quantitative studies assessing its clinical efficacy in the treatment of herpes zoster remain limited. Therefore, we conducted this study to evaluate the therapeutic effectiveness of topical capsaicin cream in the management of herpes zoster.

2. SUBJECTS AND METHODS

2.1. Study subjects

The study included 60 patients with herpes zoster (shingles) who were treated either as inpatients or outpatients at the Department of Dermatology, 19-8 Hospital, Ministry of Public Security.

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- Inclusion criteria:

+ Patients clinically diagnosed with moderate to severe herpes zoster.

+ No contraindications to the standard treatment regimen for herpes zoster or to capsaicin.

+ Patients who voluntarily agreed to participate and completed the full course of treatment according to the study protocol.

- Exclusion criteria:

+ Patients with mild herpes zoster or those who had previously received other forms of treatment.

+ Patients who declined to participate in the study.

2.2. Study methods

- Study design:

+ A randomized controlled clinical trial.

+ The study group included patients treated with capsaicin cream, while the control group comprised patients receiving standard care without capsaicin. All patients in both groups were treated and evaluated independently over 4 weeks.

- Sample size:

+ A convenience sample, including 30 patients in the capsaicin group and 30 patients in the control group.

- Study period and setting:

This study was conducted at 19-8 Hospital from January 16, 2025, to December 9, 2025.

- Study parameters:

+ Baseline characteristics before treatment: age, sex, disease duration, symptoms, lesion site, lesion area, and disease severity.

+ Baseline pain level assessed using the Likert scale from 1 to 10 (mild pain: 1–3; moderate pain: 4–7; severe pain: 8–10) [3].

+ Post-treatment outcomes: lesion progression, pain reduction after treatment, and patient satisfaction level.

Patient satisfaction was assessed through direct interviews using the official questionnaire issued by the Ministry of Health (Form No. 1) under Decision 3869/QD-BYT, consisting of 31 items across five domains [4]:

- Group A: Accessibility to medical examination and treatment services.

- Group B: Transparency of information and medical procedures.

- Group C: Facilities and patient support conditions.

- Group D: Attitude and professional competence of healthcare personnel.

- Group E: Service outcome and quality.

Satisfaction was rated using a five-point Likert scale, with each item scored from 1 to 5 points:

(1 – Very dissatisfied; 2 – Dissatisfied; 3 – Neutral/Unclear; 4 – Satisfied; 5 – Very satisfied).

2.3. Data analysis

Collected data were entered and analyzed using SPSS software, version 26.0.

3. RESULTS

3.1. Baseline characteristics before treatment

Table 1. Baseline characteristics of study subjects

Characteristics		Group		
		Control group (N = 30)	Study group (N = 30)	p
Age ($\bar{X}$ ± SD, years)		61.17 ± 16.7	61.27 ±15.56	0.876
Sex (n (%))	Male	17 (56.7)	14 (46.6)	0.606
	Female	13 (43.3)	16 (53.3)	
Age group (n (%))	< 50 years	4 (13.3)	4 (13.3)	1,000
	≥ 50 years	26 (86.7)	26 (86.7)	
Duration of illness 1 (n (%))	< 3 days	7 (23.3)	4 (13.3)	0.506
	≥ 3 days	23 (76.7)	26 (86.7)	
Clinical manifestations (n (%))	Erythematous papules	9 (30.0)	10 (33.3)	1.000
	Vesicles	30 (100.0)	30 (100.0)	-
	Bullae	5 (16.7)	9 (30.0)	0.360
	Pustules	1 (3.3)	1 (3.3)	1.000
	Crusts	4 (13.3)	0 (0.0)	0.112
Lesion site (n (%))	Head–face–neck	10 (33.3)	9 (30.0)	1.000
	Chest–abdomen	15 (50.0)	14 (46.7)	1.000
	Limbs	3 (10.0)	0 (0.0)	0.237
	Lumbosacral region	2 (6.7)	7 (23.3)	0.145
Lesion area (n (%))	≤ 2% of body surface	25 (83.3)	25 (83.3)	1.000
	>2% of body surface	5 (16.7)	5 (16.7)	
Disease severity (n (%))	Moderate	26 (86.7)	23 (76.7)	0.506
	Severe	4 (13.3)	7 (23.3)	

1: Duration from symptom onset to initiation of treatment

Before treatment, there were no statistically significant

differences between the two groups regarding age, gender, disease duration, clinical manifestations, severity, lesion site, or lesion area. Notably, no cases with crusted lesions or limb involvement were observed in the study group.

Table 2. Distribution of pain levels before treatment according to the Likert scale

Pain level	Group				p
	Control group (N = 30)		Study group (N = 30)		
	N	%	n	%	
No pain	0	0.0	1	3.3	0.395
Mild pain	0	0.0	2	6.7	
Moderate pain	25	83.3	21	70.0	
Severe pain	5	16.7	6	20.0	
Total	30	100.0	30	100.0	

Before treatment, no significant difference in pain level was found between the two groups. The majority of patients in both groups experienced moderate pain (83.3% in the control group and 70.0% in the study group), and no patients in the control group reported mild or no pain.

3.2. Results After Intervention

Progression of Lesion Healing

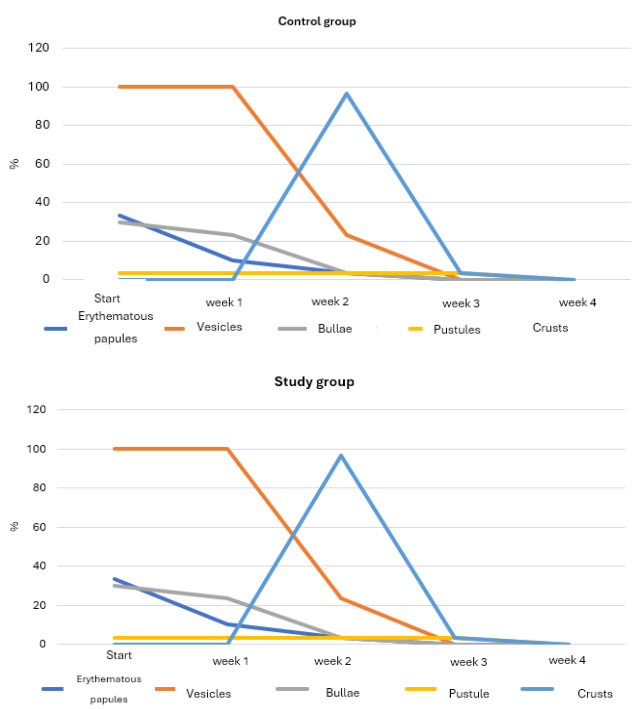

Figure 1. Progression of Lesion Healing Over Time

Overall, there was no marked difference between the two groups regarding lesion progression after treatment. Lesions typically resolve after the third week of illness.

Pain Relief Effect and Patient Satisfaction

Table 3. Pain Relief After Treatment

Pain Level	Time point			
	Before Treatment		After Treatment	
	Control group	Study group	Control group	Study group
Severe	5 (16.7%)	6 (20%)	5 (16.7%)	0,0
Moderate	25 (83.3%)	21 (70%)	8 (26.7%)	0,0
Mild	0.0	2 (6.7%)	17 (56.7%)	7 (23.3%)
None	0.0	1 (3.3)	0,0	23 (76.7%)
p	0.395		< 0.05	

After treatment, the study group demonstrated a significantly greater reduction in pain intensity compared with the control group. No patients in the study group reported moderate or severe pain, and the majority (76.7%) experienced complete pain relief.

Table 4. Patient Satisfaction

Outcome	Control group (N = 30)	Study group (N = 30)	p
Very satisfied	25(83.3%)	30(100%)	< 0.001
Satisfied	5(16.7%)	0(0%)	
Dissatisfied	0(0%)	0(0%)	
Total	30(100%)	30(100%)	

In this study, patients treated with capsaicin showed significantly higher satisfaction levels than those in the control group, with 100% reporting being “very satisfied” with the treatment.

4. DISCUSSION

4.1. Patient characteristics before treatment

In this study, the majority of patients were over 50 years of age (86.7%), with comparable proportions between the control and study groups. This finding is consistent with the report by Pham Thi Thu Huong et al., in which 96.7% of patients were older than 50 years [5]. Similarly, Tran Ngoc Si reported that 48.98% of patients were over 60 years of age, while only 6.12% were under 15 years [1].

This age distribution aligns with the pathophysiology of herpes zoster, which results from reactivation of latent varicella-zoster virus in the sensory ganglia, typically triggered by age-related immunosenescence.

Before treatment, most patients presented with moderate pain intensity (83.3% in the control group and 70.0% in the study group), with few reporting mild or no pain. This reflects the standard pain profile during the acute phase of herpes zoster and is comparable to Tran Ngoc Si’s study, which found the highest prevalence

of neuralgic pain (77.55%), followed by burning pain (53.06%) and other symptoms (2.04%) [1].

In our study, the most common lesion sites were the thoracoabdominal regions, corresponding to the dermatomes of the intercostal nerves, followed by the head and neck regions. This distribution is similar to Nguyen Thanh Thao's report, which recorded lesions on the trunk and head–neck regions in 38.7% and 33.3% of patients, respectively [6]. Tran Ngoc Si also observed that lesions were most frequent on the trunk (41.2%) and head–neck (32.65%) [1].

However, the clinical lesion characteristics in our study differed slightly, with vesicles (100%), erythematous papules (33.3%), pustules (3.3%), bullae (30%), and no crusted lesions (0%). Tran Ngoc Si (2021) reported erythematous patches (93.88%) and vesicle/bulla formations (79.59%)(1). These findings suggest that the clinical manifestations of herpes zoster are diverse, with vesicular lesions being the most typical presentation, consistent with Mai Ba Hoang Anh's observation of polymorphic cutaneous lesions in zoster infection [7].

4.2. Post-Treatment Characteristics

Following treatment, the severity of skin lesions decreased rapidly and markedly over time (Figure 3.1). Although there was no statistically significant difference between the two groups, patients treated with capsaicin exhibited more pronounced improvement in lesion healing, with most lesions resolving after the third week of therapy. This suggests that capsaicin promotes lesion recovery.

Capsaicin exerts its pharmacological action through TRPV1 receptor activation, leading to desensitization of nociceptive fibers, decreased release of inflammatory mediators, improved microcirculation, and enhanced epithelial regeneration.

We observed a superior analgesic effect in the capsaicin group, with 76.7% of patients achieving complete pain relief, compared to none in the control group—a statistically significant difference ($p < 0.05$). This result is comparable to Tran Ngoc Si's findings, where 70.2% of patients achieved complete pain relief after 4 weeks of treatment with Medlo [1], and to Nguyen Thanh Thao's report of 66.7% good and 30.7% fair response rates after laser He-Ne therapy [6].

Given its pronounced analgesic efficacy, the capsaicin-treated group reported significantly higher satisfaction, with 100% of patients being "very satisfied," compared to 83.3% in the control group. This satisfaction rate exceeds that reported by Tran Ngoc Si, where 90% of patients were satisfied or very satisfied with Medlo therapy [1].

These results demonstrate that capsaicin provides effective pain relief and improves patient quality of life in the management of herpes zoster.

5. CONCLUSION

Herpes zoster commonly affects patients over 50 years of age and presents with diverse skin lesions, with vesicular eruptions being the most typical. Capsaicin has proven to be a safe and effective therapeutic option, significantly reducing pain and enhancing patients' quality of life.

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