

Case Report

## Treatment of Psoriasis with Exudation: Three Case Studies

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**Objectives:** The purpose of this study is to present three case reports on the treatments of psoriasis with exudation.

**Methods:** We administered herbal medicine to three patients who showed psoriasis with exudation and evaluated the results by Psoriasis Area and Severity Index(PASI).

**Results:** After the treatment three patients showed improvements in PASI. PASI of patient 1 changed from 18.0 to 0.9; patient 2 from 11.6 to 0.8; patient 3 from 12.0 to 0.4.

**Conclusions:** The results suggest that herbal medicine can be an effective treatment for psoriasis with exudation.

**Key Words** : psoriasis, PNSJT, skin disease, exudation, PASI

### Introduction

Psoriasis is a relatively common skin disease that often manifests with silver-white scales, papules and plank-shaped skin irritations. The severity and appearance of symptoms varies between patients. The cause of psoriasis is not yet known, but patients often go through cycles of deterioration and improvement, making it a chronic condition<sup>1)</sup>. However, the cause of the disease has not been discovered, and there are no clear treatment guidelines.

In Korean Medicine, several different causes of psoriasis have been put forward but no clear guidelines for treatment have been published. The possible causes that have been advanced for psoriasis include blood heat, extravasted blood, ischemia,

coldwind, moist heat, wind moist, cold moist, wind, blood heat, heat, moist, worm, liver-kidney deficiency, chong meridian conception vessel(ren meridian)-mismatch, heatwind and wind poison<sup>2,3)</sup>.

Accordingly, there is a need to identify the cause of the disease and come up with effective treatment methods aimed at improving the skin condition of psoriasis patients. With no clear treatment method for psoriasis currently proposed, this may be possible through demonstration, one of the strengths of Korean medicine.

In clinical settings, severe itching often drives psoriasis patients to scratch their skin, leading to abrasions and exudation, thereby aggravating the symptoms. When this fluid gets on the patient's clothes or the patient's skin sticks to their clothes, it can be uncomfortable to remove the fluid and painful to separate the skin from the clothing. The

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abrasions caused by scratching expose patients to the risk of secondary infections. For this reason, to prevent secondary infections, psoriasis patients with exudation often need further care such as having a dressing applied, which causes them to experience more pain than ordinary psoriasis patients.

In particular, many psoriasis patients with exudation end up scratching their skin during their sleep, causing further abrasions. This unconscious behaviour exposes them to infection, so rapid intervention is necessary. The itching also causes many patients to have difficulty sleeping, lowering their quality of life.

This study is a report of the positive results the authors have achieved in treating psoriasis patients suffering from exudation in a clinical setting.

## Subjects and Methodology

### 1. Research Subjects

This study looked at the treatment progress of three psoriasis patients suffering from exudation as a result of scratching their skin to relieve itching. The patients were staying in OO Korean medicine clinic.

### 2. Methodology

Pai Nong San Ji Tang(PNSJT) was administered to the patients. No other treatment was given except herbal medicine during treatment. But Madecasal Care Ointment(Antibiotic) was used for preventing secondary infection, when exudation was too high. We suggested to use just 1 time per day with dressing to the affected area.(Only patient 2 used it, the other patient didn't use)

### 3. Duration of Treatment

After decocting 20 packs for 90 minutes and packaging the medicine in 30 120cc packs, the patients were administered the medicine twice a day for a period averaging 15 days.

### 4. Prescribed Medication

PNSJT: Platycodi Radix 8g, Aurantii Immaturus Fructus, Paeoniae Radix Alba, Jujubae Fructus, Glycyrrhizae Radix 6g, Zingiberis Rhizoma Recens 2g<sup>4)</sup>. (Table 1)

**Table 1.** Composition of PNSJT

No.	Composition	Quantity(g)
1	Platycodi Radix	8
2	Aurantii Immaturus Fructus	6
3	Paeoniae Radix Alba	6
4	Jujubae Fructus	6
5	Glycyrrhizae Radix	6
6	Zingiberis Rhizoma Recens	2

### 5. Criteria for Prescription

PNSJT: a mixture of pai nong tang and pai nong san, as found in the *Jin Gui Yao Lue* (Essential Prescriptions From the Golden Cabinet). It is used to treat purulent skin diseases in people of average fitness, suppuration, boils and abscesses where the skin is inflamed and swollen to the point of causing pain, as well as adenomatosis, mastopathy, sinus infections and bartholin's gland cyst<sup>5)</sup>. It was also used to treat palmoplantar pustulosis<sup>6)</sup>. Because palmoplantar pustulosis is a type of psoriasis, we believed that there was no problem with prescribing PNSJT to remove the exudation and prevent suppuration.

### 6. PASI Score Criteria

The severity of psoriasis symptoms were measured on the PASI (Psoriasis Area and Severity Index) scale. The PASI is the most commonly used index to measure treatment results for psoriasis patients, and was used to obtain an objective measure of treatment results. The specific criteria are as follows.

Head accounts for 10%, trunk 30%, upper body 20% and lower body 40%. Based on the percentage of infected skin, a score of 1(0~10%), 2(10~30%), 3(30~50%), 4(50~70%), 5(70~90%), 6(90~100%) is

given to each section, and then the erythema, scales and depth of penetration are rated from 0-4 to calculate a final score<sup>7,8)</sup>.

## Cases

### Patient 1

1. Name: Moon OO (M/ 38)
2. Chief complaint: Full body psoriasis, psoriasis nummularis, scales, itching
3. Date of onset: September 2005
4. Present illness: After first contracting the disease in September 2005, the patient received a biopsy at a western hospital in 2007, and began using Daivonex and Dethasone. No improvement was shown, and he stopped using the ointments and was admitted to an oriental clinic.
5. Past history: none
6. Family history: none
7. Other: subdued pulse, red tongue color & white coat on patient's tongue
8. Treatment progress:
  - 1) September 10, 2012

The itching from the disease was severe making it difficult to sleep, and calluses formed on the top of his feet when the exudation dried. His PASI score is 18. A 15 day prescription of PNSJT was given. (Fig. 1)



Fig. 1. Before treatment (2012-09-10)

- 2) September 21, 2012

The itching has improved, and symptoms have shown marked improvement. His PASI score is 6.8. A 15 day prescription of PNSJT was given.

- 3) October 5, 2012

Symptoms continue to show improvement. The patient was unable to stay in hospital for personal reasons, and after a consultation over video conference, a 15 day prescription of PNSJT was given.

- 4) October 23, 2012

Some symptoms have been alleviated, while others have worsened. His PASI score is 11.5. A 30 day prescription of PNSJT was given. (Fig. 2)

- 5) November 23, 2012

Symptoms showed rapid improvement and itching has markedly reduced. The calluses have turned black and scars remain. His PASI score is 3.9. The patient was unable to stay in the hospital due to a three month overseas business trip, and was given a 90 day prescription of PNSJT.

- 6) February 28, 2013

Symptoms have almost disappeared. Faint scars remain, but it was decided that no further treatment was required. His PASI score is 0.9. (Fig. 3)

9. Changes in PASI Score (Table 2)



Fig. 2. During treatment (2012-10-23)



Fig. 3. After treatment (2013-02-28)

Patient 2

1. Name: Na OO (M/ 21)
2. Chief complaint: Symptoms: psoriasis of the knee and elbow joints, itching
3. Date of onset: July 2010
4. Present illness: After first contracting the disease in 2010, the patient did not receive any treatment until undergoing a biopsy at a western hospital approximately four months ago. The patient applied Betabate once daily for two weeks, but the steroid-based ointment was ineffective. He received treatment with a decoction at another oriental clinic, but it was largely ineffective and he decided to be admitted to this clinic.
5. Past history: none
6. Family history: none
7. Other: subdued pulse, red tongue color & white coat on patient's tongue
8. Treatment progress:



Fig. 4. Before treatment (2013-07-11)

1) July 11, 2013

The itching was so severe that he was unable to get any sleep, and abrasions appeared where he had been scratching his skin, with exudation leading to calluses when the fluid dried. His PASI score is 11.6. A 15 day prescription of PNSJT was given. (Fig. 4)

2) July 25, 2013

Some symptoms showed intermittent improvement and deterioration, with improved skin condition and reduced itching on the patient's upper body and the front side of his lower body. However, skin

Table 2. PASI Changes of Case 1

	Before Treatment	During Treatment	After Treatment
Head	$3 \times (2+1+1) \times 0.1 = 1.2$	$2 \times (3+3+3) \times 0.1 = 1.8$	$1 \times (0+0+0) \times 0.1 = 0$
Trunk	$3 \times (2+1+0) \times 0.3 = 2.7$	$2 \times (3+3+3) \times 0.3 = 5.4$	$1 \times (1+0+0) \times 0.3 = 0.3$
Upper L.	$3 \times (2+1+1) \times 0.2 = 2.4$	$2 \times (3+3+3) \times 0.2 = 3.6$	$1 \times (1+0+0) \times 0.2 = 0.2$
Lower L.	$2 \times (2+1+2) \times 0.4 = 4.0$	$2 \times (3+3+3) \times 0.4 = 7.2$	$1 \times (1+0+0) \times 0.4 = 0.4$
PASI Score	10.3	18.0	0.9



Fig. 5. During treatment (2013-08-26)



Fig. 6. After treatment (2014-11-22)

condition and itching worsened on the back of his lower body below the knee. His PASI score is 5.9. A 30 day prescription of PNSJT was given.

3) August 26, 2013

The upper body continues to show improvement, while skin condition deteriorated on the lower body. Exudation and itching have worsened, leading to more calluses. His PASI score is 12.3. A 30 day prescription of PNSJT was given. There was no special reason for taking a sudden turn for the worse. In general, food can aggravate the skin condition, but following the patient's answer, we couldn't find a specific cause. We suggested to use Madecazol Care Ointment 1 time per day with dressing to the affected area (Fig. 5)

4) September 24, 2013

Symptoms showed overall improvement, with reduced itching, reduced calluses and marked improvement in skin colour. During this time, he used Madecazol Care Ointment just 1 time per day with dressing to right anterior shin area. His PASI

score is 8.9. A 15 day prescription of PNSJT was given.

5) October 15, 2013

The symptoms that were previously getting better have stopped improving and deteriorated slightly compared to before. No clear cause for this has been established. As the condition of psoriasis patients often worsens when the weather is dry and the air temperature drops, it was decided to make no changes to the treatment and continue with the previous prescription. During this time, he used Madecazol Care Ointment just 1 time per day with dressing to right anterior shin area. His PASI score is 9.9. A 15 day prescription of PNSJT was given.

6) October 31, 2013

The symptoms that had worsened have shown marked improvement, and skin condition appears to be stable. During this time, he never used Madecazol Care Ointment because affected area was better. His PASI score is 2.7. A 15 day prescription of PNSJT was given.

7) November 23, 2013

The symptoms have worsened without any clear reason. During this time, he never used Madecazol Care Ointment . His PASI score is 6.9 A 15 day prescription of PNSJT was given.

8) December 20, 2013

Symptoms are once again showing improvement. There is less exudation and fewer calluses compared to before. During this time, he never used Madecazol Care Ointment . His PASI score is 3.3 A 30 day prescription of PNSJT was given.

9) November 22, 2014

Although we had not ended treatment, the patient's condition had improved, and he had not been receiving treatment in the meantime. Following this, the patient was later readmitted for a check-up and to take photographs after his condition worsened slightly. During this time, he never used Madecazol Care Ointment . His PASI score is 0.8. (Fig. 6)

9. Changes in PASI Score (Table 3)

Patient 3

1. Name: Kim OO(M, 59)
2. Chief complaint: Full body psoriasis, psoriasis nummularis, itching
3. Date of onset: July 2011
4. Present illness: After first contracting the disease in July 2011, the patient received a biopsy at a western hospital. Following this, he used Daiyonex, Panaderm and JR Hydrocortisone as external creams and antihistamines Primalan and Mucolase and an antiphlogisnc enzyme preparation as internal medicines until June 2014. His condition

did not improve, and he decided to end treatment at the western hospital and received treatment at an oriental clinic for 45 days, including being administered a decoction. Despite this, his condition continued to worsen and he was admitted to this clinic.

5. Past history: hypertension (for 3 years), appendectomy (1984)

6. Family history: none

7. Other: floating pulse, light red tongue color & yellow coat on patient's tongue

8. Treatment progress:

1) November 10, 2014

His itching was severe, leading to a lot of exudation. Recently he has been rebounding, with a more intense burning sensation in the affected area. His PASI score is 12.0. A 15 day prescription of PNSJT was given. (Fig. 7)

2) November 25, 2014

Symptoms show marked improvement, with greatly reduced itching and exudation. His PASI score is 1.8. A 15 day prescription of PNSJT was given.

3) December 11, 2014

Although the patient's rate of recovery has slowed, symptoms continue to show steady improvement. His PASI score is 16. A 30 day prescription of PNSJT was given.

4) January 8, 2015

Some symptoms show deterioration compared to before, and itching has worsened. Symptoms have worsened despite there being no change in the prescription, and upon being interviewed the patient

Table 3. PASI Changes of Case 2

	Before Treatment	During Treatment	After Treatment
Head	$0 \times (0+0+0) \times 0.1=0$	$0 \times (0+0+0) \times 0.1=0$	$0 \times (0+0+0) \times 0.1=0$
Trunk	$0 \times (0+0+0) \times 0.3=0$	$0 \times (0+0+0) \times 0.3=0$	$0 \times (0+0+0) \times 0.3=0$
Upper L.	$1 \times (1+1+0) \times 0.2=0.4$	$1 \times (2+1+1) \times 0.2=0.8$	$0 \times (1+0+1) \times 0.2=0.4$
Lower L.	$2 \times (2+3+3) \times 0.4=6.4$	$3 \times (3+3+3) \times 0.4=10.8$	$0 \times (1+0+0) \times 0.4=0.4$
PASI Score	6.8	11.6	0.8

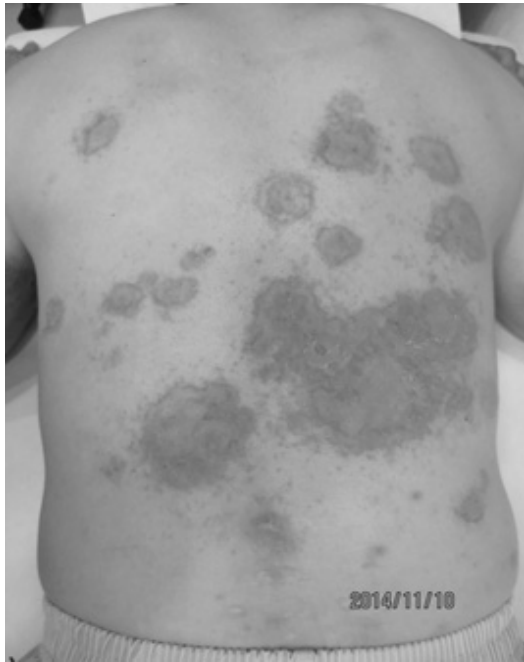


Fig. 7. Before treatment (2014-11-10)

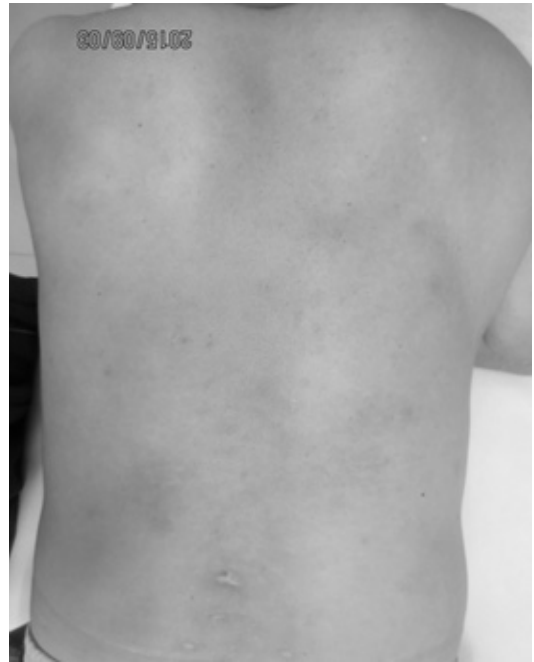


Fig. 8. After treatment (2015-09-03)

mentioned that he had been drinking water containing gallnut since a month ago. In order to identify the cause of the problem, the patient was encouraged to refrain from drinking water with gallnut. After seven days without taking any Korean medicine there was no problem, so the patient resumed drinking water with gallnut. His PASI score is 5.2, a dramatic increase. As the patient was unable to remain in hospital, a 60 day prescription of PNSJT was given.

5) March 15, 2015

The symptoms that had worsened have almost all shown improvement, but papules and itching remain below the patient's knees. It was determined that the patient's condition had improved, and as he was unable to stay in hospital due to the distance, the same decoction was prescribed for one month, His PASI score is 1.2 Due to a long overseas business trip the patient was unable to remain in hospital, so a 90 day prescription of PNSJT was given.

6) June 25, 2015

Symptoms continue to show improvement, with a marked reduction in itching, and almost no exudation. The same decoction was prescribed for 60 days. His PASI score is 0.8.

7) September 3, 2015

All symptoms including papules, exudation and itching have almost completely disappeared. The patient appears to be improving even without treatment, so we recommended ceasing treatment, to which the patient agreed. His PASI score is 0.4. (Fig. 8)

9. Changes in PASI Score (Table 4)

### Discussion and Conclusion

Psoriasis is a skin disease that often manifests with silver-white scales, papules and plank-shaped skin irritations<sup>1)</sup>. It often becomes a chronic condition, with patients going through cycles of

**Table 4.** PASI Changes of Case 3

	Before Treatment	During Treatment	After Treatment
Head	$2 \times (1+1+1) \times 0.1 = 0.6$	$2 \times (1+1+1) \times 0.1 = 0.6$	$0 \times (0+0+0) \times 0.1 = 0$
Trunk	$2 \times (3+2+2) \times 0.3 = 4.2$	$2 \times (3+2+2) \times 0.3 = 4.2$	$0 \times (0+0+0) \times 0.3 = 0$
Upper L.	$2 \times (2+2+2) \times 0.2 = 2.4$	$2 \times (2+2+2) \times 0.2 = 2.4$	$0 \times (0+0+0) \times 0.2 = 0$
Lower L.	$2 \times (2+2+2) \times 0.4 = 4.8$	$2 \times (2+2+2) \times 0.4 = 4.8$	$1 \times (1+0+0) \times 0.4 = 0.4$
PASI Score	12.0	12.0	0.4

improvement and deterioration. According to Hong<sup>9)</sup>, there were 19 papers on psoriasis published in Korea between 2000 and 2012 that were written from an Korean medicine perspective. Most of them are case studies focusing on between one and three patients, with the exception of the 82 patients studied by Yang<sup>10)</sup> et al. This appears to be because the nature of the disease makes it difficult to treat, and treatment tends to take a long time.

In clinical settings, severe itching often drives psoriasis patients to scratch their skin, leading to abrasions and exudation. For these patients, the first priority needs to be reducing the itching and removing the fluid. Itching makes it difficult for patients to sleep, and some scratch their sores while sleeping which causes exudation, thereby exposing them to a high risk of secondary infection.

Until now, there have been no materials published on psoriasis patients with exudation. However, from a clinical perspective, patients who experience exudation due to severe itching see a severe decline in their quality of life, and therefore require fast and effective treatment.

By taking an approach aimed at removing exudation, alleviating itching and improving skin condition, improvement in symptoms was observed.

In the first case study, two years after contracting the disease in 2005, the patient used western skin creams for up to five years but failed to see any improvement, eventually being admitted to an oriental clinic. The patient experienced far more severe itching than ordinary psoriasis patients, and scratching his skin to relieve the itching led to

exudation and further deterioration in his skin condition. By treating the patient with a PNSJT tang prescription, his PASI score was reduced from 18.0 to 0.9.

In the second case study, the patient did not receive any treatment for approximately three years after first contracting the disease in 2010. After receiving a biopsy at a western hospital, he used a steroid-based ointment, but was admitted to a clinic after it failed to produce effective results. The patient suffered from severe itching, and scratching of the infected area led to abrasions and exudation. By treating the patient with a PNSJT prescription, his PASI score was reduced from 11.6 to 0.8.

In the third case study, after contracting the disease in 2011, the patient used external steroid-based creams as well as antihistamines and an antiphlogistic enzyme preparation for three years but failed to show improvement. After ending this treatment, he was admitted to an oriental clinic. At the time of admittance, he suffered from severe itching and exudation, but after being treated with a PNSJT prescription his PASI score was reduced from 12.0 to 0.4.

In all three cases, patients were suffering from exudation as a result of scratching irritated skin due to itchiness, and were administered PNSJT for treatment. PNSJT is used to reduce swelling in painful conditions such as suppuration<sup>5)</sup>, PNSJT can play an important role in protection against *S. pyogenes*<sup>12)</sup>, and treat psoriasis such as and palmoplantar pustulosis<sup>6)</sup>.



So it was decided to use this treatment for psoriasis patients suffering from severe exudation since we believed it would help to remove the exudation and reduce skin inflammation. After administering the PNSJT, the discharged fluid dried up and itching was reduced, leading to improvement in skin condition in the affected areas.

Until now, PNSJT has almost never been used in a clinical setting as a psoriasis treatment, but it has been used in Japan to treat patients with atopic dermatitis who suffer from exudation<sup>11)</sup>. For psoriasis patients, when we prescribed the medicine to remove the fluid it led to reduced exudation and an overall improvement in psoriasis symptoms, suggesting that this prescription is effective in helping to treat psoriasis patients.

However, as this study only examined three patients, more research is needed in this area to determine whether this treatment is suitable for all psoriasis patients suffering from exudation. Exudation is not common in psoriasis patients, but it appears that administering PNSJT as a primary form of treatment can produce effective results, which is significant for psoriasis treatment.

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