

# Ji Desheng Snake Medicine for Herpes Zoster

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**Abstract:** Objective: to evaluate the clinical efficacy and application value of Ji Desheng snake medicine in the treatment of herpes zoster by Meta-analysis. Methods: CNKI, WANFANG, VIP, PubMed, The Cochrane Library and Embase were searched to identify available articles (up to January 2024). The included articles were subjected to data extraction and bias risk evaluation, and RevMan5.3 software was used to evaluate the efficacy and safe recovery time. Results: Nine articles involving 459 patients were finally included. Meta-analysis showed that Ji Desheng snake medicine combined with conventional treatment could improve and shorten the disease recovery time of patients [MD = - 3.30, 95%CI (-5.50, -1.1%), P < 0.05]. Ji Desheng snake medicine combined with routine treatment tended to improve the curative effect, and the difference was not statistically significant [RR = 1.11, 95%CI (0.99, 1.24), P = 0.12]. Conclusion: Ji Desheng snake medicine combined with conventional antiviral therapy can shorten the course of herpes zoster, suggesting that the combination of Ji Desheng snake medicine and conventional antiviral drugs should be considered in the clinical treatment of herpes zoster. However, due to the large differences in the included literature, we should treat the research results carefully, and large sample size and high-quality literature are needed to further confirm its clinical efficacy.

**Keywords:** Ji Desheng Snake Medicine; Herpes Zoster; Meta Analysis.

## 1. Introduction

Herpes zoster is an acute inflammatory skin disease caused by virus, and it is commonly known as Shedan (snake pill) and Spider sore in TCM, so it is a common disease in the dermatology department [1]. The disease mainly involves the skin and mucosa, and is clinically characterized by clustered vesicles. At present, the treatment of herpes zoster in western medicine is mainly antiviral therapy, but the course of the treatment is long. Jidesheng Sheyao Tablets [2] is composed of *Ajuga reptans*, *Bufo siccus*, *Scolopendra*, and *Euphorbia humifusa* and has the effects of clearing heat and detoxicating, relieving swelling and pain. At present, there is no study to systematically evaluate the evidence level of clinical research on the treatment of herpes zoster with Ji Desheng snake medicine. The purpose of this study was to systematically evaluate the efficacy and duration of the course of herpes zoster treated with Ji Desheng snake medicine, in order to provide the basis for decision-making for clinical application.

## 2. Data and Methods

### (1) literature retrieval

The data of CNKI, WANFANG, VIP, PubMed, TheCochraneLibrary were retrieved by the system. The databases were established until January 1, 2024. The Chinese database used "Ji Desheng Sheyao" and "Zoster" as search terms, and the theme/abstract/full-text search method was adopted according to the characteristics of each database. The search expressions of the English database are: ('Jideshengsnakemedication' or 'snake medicine') and ("herpeszoster" or "zoster").

### (2) Literature screening:

Articles were screened according to the pre-established inclusion and exclusion criteria. All titles and abstracts of obtained articles were read, and after articles that obviously did not meet the inclusion criteria were excluded, the full text

of articles that might meet the inclusion criteria was read to determine whether they met the inclusion criteria, and relevant materials were extracted to check the results of the included articles. Data were extracted from the control trials that met the inclusion criteria.

### (3) Data Extraction

A data extraction table was designed and established for the required research information, including title, author, publication year, sample size, research design method, intervention measures, intervention time and outcome indicators. In case of differences, through discussion and settlement.

### (4) Methodological quality evaluation

Uses the methodological quality evaluation system built in with RevMan5.3 software.

### (5) Data Extraction

Meta-analysis was performed using RevMan5.3 software. 1) Effect amount combination: Mean Difference (WMD) was used for measurement data, and Odds ratio (OR) was used for enumeration data, with each effect amount and its 95% Confidence interval (CI) as the result. 2) heterogeneity test:  $\chi^2$  test was used to analyze statistical heterogeneity, and the test level was set as  $\alpha = 0.1$ . The degree of heterogeneity is expressed as  $I^2$ . When there was statistical homogeneity ( $P > 0.1$ ,  $I^2 < 50\%$ ) in each study, Fixed Effects Mode was used for analysis. If there was heterogeneity ( $P \leq 0.1$ ,  $I^2 \geq 50\%$ ) between studies, the source of heterogeneity was analyzed using the Random Effects Model combined effect amount and subgroup analysis or sensitivity analysis. If the heterogeneity was too large to combine the effects, qualitative analysis was used. The forest map was drawn by statistical software, and whether the combined statistics were statistically significant was observed.

## 3. Results

### (1) Literature retrieval results

A total of 227 articles were obtained through initial search. After further reading the titles of the remaining articles and

browsing the abstracts, 173 irrelevant articles were excluded and 45 articles were excluded through browsing the full text. Finally, a total of 9 articles [3–10] were included in the study,

including 459 patients, 257 observation group and 202 control group. The detailed search process and the final search results are shown in Fig. 1.

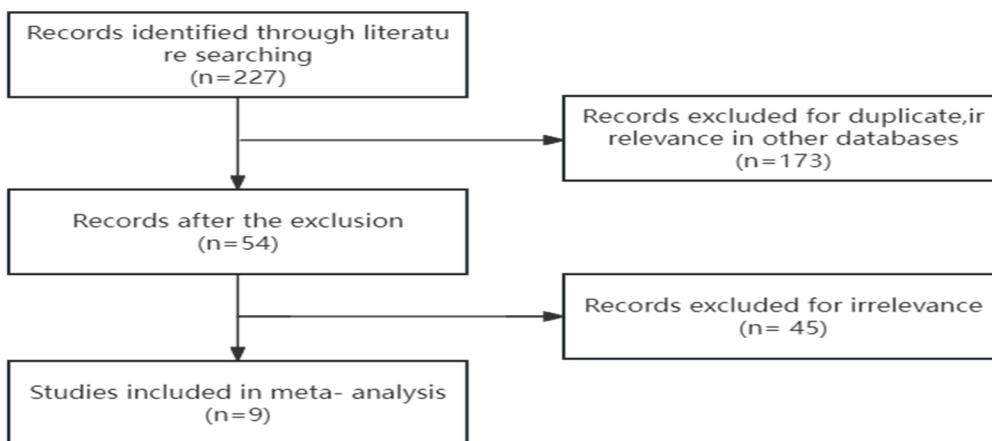


Fig 1. The detailed search process and the final search results

(2) Basic characteristics of articles included in the study

A total of nine articles were included in the study from 2003 to 2023. All included articles were randomly grouped, and only one article [10] was explicitly assigned using the random number table. The two groups were divided into Ji Desheng snake medicine combined with conventional antiviral therapy and conventional antiviral therapy.

All trials were rated as low risk due to randomization in the evaluation of random sequence generation, and all trials were rated as unknown risk due to lack of explanation in allocation concealment, implementation of blind method, and adoption of blind method in the results. Selective reports and other risk factors were given with low score and unknown risk because they were not known. The specific situation is shown in figure 2.

(3) Methodological evaluation of inclusion study quality

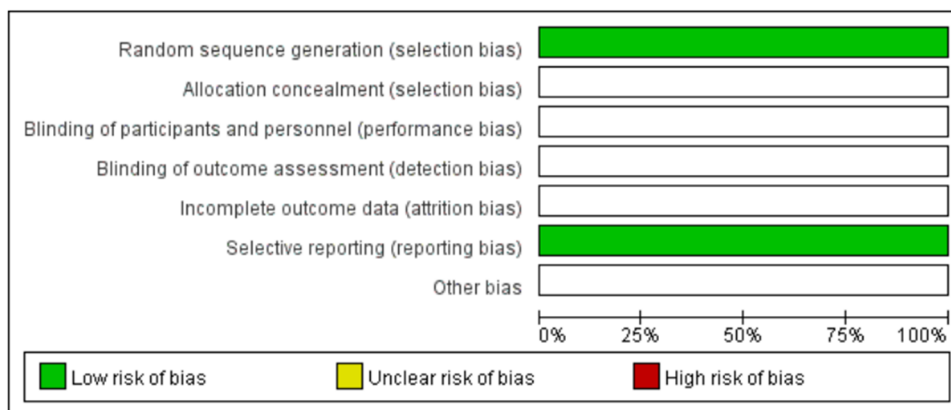
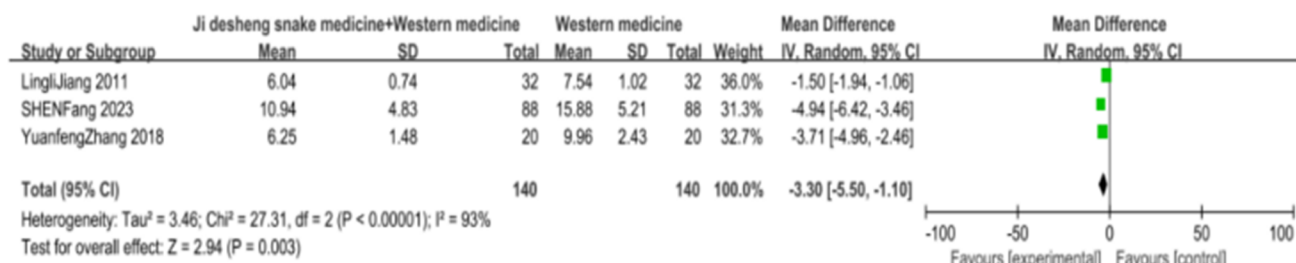


Fig 2. Incorporate research quality

(4) Meta-analysis results



MD: Mean difference, CI: Confidence Interval, \*: MD=-3.30; Z=2.94

Fig 3. Meta analysis of the recovery time after Ji Desheng snake medicine combined with conventional treatment

1) Analysis of recovery time after Ji Desheng snake medicine combined with conventional treatment

Among the nine included studies, three studies [5,9,10] listed the recovery time of Ji Desheng snake medicine combined with conventional antiviral treatment, and the

heterogeneity test result showed P < 0.00001, I<sup>2</sup>=93%, indicating that there was a large heterogeneity between the included studies. A random effect model was used and the results of meta-analysis showed that: MD = -3.30, 95% CI (-5.50, -1.10); The combined effect quantity results were as

follows:  $Z=2.94$ , and  $P=0.003$ , indicating that there was a statistical difference between the observation group and the control group in improving and shortening the disease recovery time of patients, and the former was superior to the latter, as shown in Fig.3.

2) Ji Desheng snake medicine combined with conventional treatment efficacy analysis results

Among the nine included studies, four studies [6–7,9–10] listed the efficacy of Ji Desheng snake medicine combined with conventional treatment. The heterogeneity test showed

that  $P=0.12$  and  $I^2=49\%$ , indicating that there was relatively small heterogeneity among the studies. The fixed-effect model was selected. The results of meta-analysis showed that  $RR = 1.11$ , 95%CI (0.99, 1.24), and the combined effect amount was  $Z=1.84$  and  $P=0.07$ , suggesting that the former was superior to the latter in improving the efficacy of the observation group and the control group, but the difference between the two groups was not statistically significant ( $P = 0.07$ ).as shown in Fig.4.

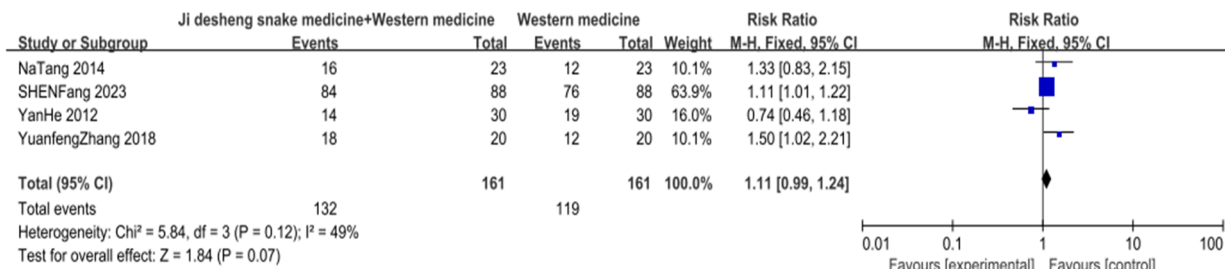


Fig 4. Meta analysis of the Ji Desheng snake medicine combined with conventional treatment efficacy analysis results

3) Analysis of curative effect of Ji Desheng snake medicine combined with traditional Chinese medicine

Among the 9 included studies, 2 studies [3-4] listed the curative effect of Ji Desheng snake medicine combined with traditional Chinese medicine. Heterogeneity test:  $P=0.78$ ,

$I^2=0\%$ , suggesting that there was little heterogeneity among the studies. Fixed effect model was selected, and the results of meta-analysis showed:  $RR = 1.17$ , 95%CI (1.04, 1.32), combined effect. As shown in Fig.5.

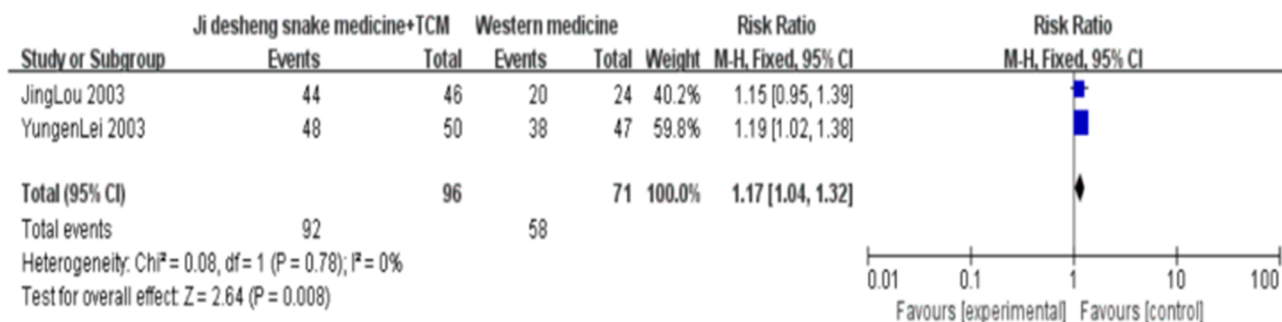


Fig 5. Meta analysis of the curative effect of Ji Desheng snake medicine combined with traditional Chinese medicine

4) Analysis of curative effect of Ji Desheng snake medicine combined with acupuncture

Among the 9 included studies, 2 studies [11-12] listed the curative effect of Ji Desheng snake medicine combined with acupuncture, and the heterogeneity test:  $P=0.31$ ,  $I^2=2\%$ ,

suggesting that there was little heterogeneity among the studies. The fixed effect model was selected, and the results of meta-analysis showed:  $RR = -2.00$ , 95%CI (-3.01, -0.99). As shown in Figure 6.

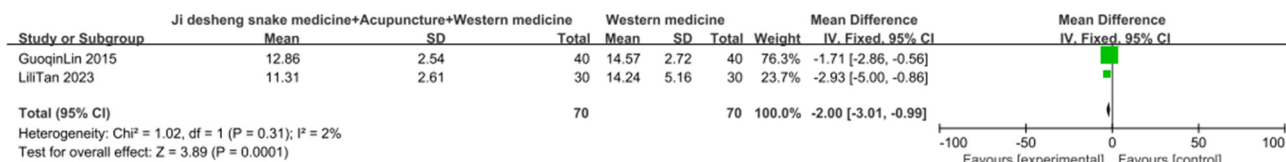


Fig 6. Meta analysis of the curative effect of Ji Desheng snake medicine combined with acupuncture

## 4. Discussion

Herpes zoster is a common skin disease in clinic, and most patients consciously suffer from local neuralgia when the disease occurs. At the beginning, local skin first developed erythema, followed by clusters of papules, which quickly turned into blisters. The contents were transparent and shiny blisters, which were arranged in bands with bleeding or

suppuration, and local lymph nodes were often swollen and tender. Its treatment principle is to relieve pain, resist virus, nourish nerves, shorten the course of disease, protect the local area and prevent infection.

It is also called "snake string sore" in TCM. There are many discussions on the etiology and pathogenesis of this disease in traditional Chinese medicine. The primary cause of disease and pathogenesis is damp-heat and fire toxin, and the later

stage is normal deficiency, blood stasis and dampness pathogen invasion[11]. Treatment should be clearing away liver fire, removing heat and dampness, promoting blood circulation and removing blood stasis, promoting qi circulation and relieving pain. The common syndrome types in clinic were liver meridian depression and heat syndrome, spleen deficiency and dampness accumulation syndrome, and qi stagnation and blood stasis syndrome. In clinical treatment, the organic combination of TCM and Western medicine based on their respective advantages may bring better results to patients.

Jidesheng Sheyao Tablets is a Chinese medicinal synthetic tablet, which is made up of seven leaves and one flower, toad, centipede, Euphorbia humifusa and so on. It can clear away heat and toxic material, relieve swelling and pain, and has the effects of astringing, resisting virus and infection. Ji Desheng Sheyao Tablets can be applied topically to herpes zoster to relieve pain, shrink dilated capillaries of affected part, dry blister fluid, scab herpes and shorten disease recovery time of patients. Clinically, routine antiviral drug therapy combined with wet compress of Jidesheng snake tablets is simple, safe and reliable, and the patient's compliance is good, which is worthy of clinical application.

This study included nine controlled trials on the treatment of herpes zoster, each divided into two groups, in which, the observation group was treated with Ji Desheng snake medicine combined with antiviral or traditional Chinese medicine treatment, and the control group was treated with conventional antiviral treatment. A total of 227 articles were obtained through initial search. After further reading the titles of the remaining articles and browsing the abstracts, 173 irrelevant articles were excluded and 45 articles were excluded through browsing the full text. Finally, a total of 9 articles [3–10] were included in the study, including 459 patients, 257 observation group and 202 control group. CNKI, WANFANG, VIP, PubMed, TheCochraneLibrary and Embase were searched to identify available articles (up to January 2024).

Articles were screened according to the pre-established inclusion and exclusion criteria. All titles and abstracts of obtained articles were read, and after articles that obviously did not meet the inclusion criteria were excluded, the full text of articles that might meet the inclusion criteria was read to determine whether they met the inclusion criteria, and relevant materials were extracted to check the results of the included articles. Data were extracted from the control trials that met the inclusion criteria. The included articles were subjected to data extraction and bias risk evaluation, and RevMan5.3 software was used to evaluate the efficacy and safe recovery time. All nine studies were randomly assigned, including one studies that explicitly adopted the random number table[10], and the rest that did not explicitly describe the random method used. The descriptions of the implementation of the blind method, allocation concealment and data missing in all studies are unknown, resulting in the general literature quality of included studies. Therefore, the reliability of conclusions is only for clinical reference. The included literature was extracted and analyzed, and it was concluded that Ji Desheng snake medicine combined with conventional treatment could improve and shorten the disease recovery time of patients [the heterogeneity test result showed  $P < 0.00001$ ,  $I^2=93\%$ , indicating that there was a large heterogeneity between the included studies. A random effect model was used and the results of meta-analysis showed that:

$MD = -3.30$ ,  $95\%CI(-5.50,-1.10)$ ; The combined effect quantity results were as follows:  $Z=2.94$ , and  $P=0.003$ , indicating that there was a statistical difference between the observation group and the control group in improving and shortening the disease recovery time of patients, and the former was superior to the latter]. Ji Desheng snake medicine combined with routine treatment tended to improve the curative effect, and the difference was not statistically significant [The heterogeneity test showed that  $P=0.12$  and  $I^2=49\%$ , indicating that there was relatively small heterogeneity among the studies. The fixed-effect model was selected. The results of meta-analysis showed that  $RR = 1.11$ ,  $95\%CI(0.99, 1.24)$ , and the combined effect amount was  $Z=1.84$  and  $P=0.07$ , suggesting that the former was superior to the latter in improving the efficacy of the observation group and the control group, but the difference between the two groups was not statistically significant ( $P = 0.07$ )]. Ji Desheng snake medicine combined with traditional Chinese medicine has a tendency to improve the curative effect [ $RR = 1.17$ ,  $95\%CI(1.04, 1.32)$ ,  $P = 0.008$ ], and the difference is statistically significant. Ji Desheng snake medicine combined with acupuncture has a tendency to improve the curative effect [ $RR = -2.00$ ,  $95\%CI(-3.01, -0.99)$ ,  $P = 0.0001$ ], and the difference is statistically significant.

The main shortcomings of the results of this study were as follows: 1) The overall methodological quality of included studies was generally evaluated; 2) The proportion of the random implementation scheme with no specific application specified in the study is relatively large; 3) Blind method, allocation concealment method, etc. are not proposed in all included research papers; 4) The sample size of included studies is too small to determine whether there is publication bias. In conclusion, the use of Ji Desheng snake medicine combined with conventional antiviral therapy can improve and shorten the time to recovery of the patient's disease. Therefore, in order to shorten the recovery time of patients, Ji Desheng snake medicine can be appropriately combined with conventional antiviral therapy in the clinical treatment of herpes zoster. Since there were many unknown risks in the literature methodological quality evaluation included in this study, and the overall sample size was small, the existing conclusions were not sufficiently scientific and reliable. In future studies, researchers need to carry out RCT with larger sample size, more rigorous design, and higher quality to provide more scientific data verification for the application of Ji Desheng snake medicine combined with conventional therapy in the treatment of herpes zoster.

## 5. Conclusion

Ji Desheng snake medicine combined with conventional antiviral therapy can shorten the course of herpes zoster, suggesting that the combination of Ji Desheng snake medicine and conventional antiviral drugs should be considered in the clinical treatment of herpes zoster. However, due to the large differences in the included literature, we should treat the research results carefully, and large sample size and high-quality literature are needed to further confirm its clinical efficacy.

Some of the included studies have not reported in detail the time when the symptoms of local neuralgia of herpes zoster disappear, the time when the rash subsides and the safety. In the future, the clinical research on the clinical treatment of herpes zoster should pay more attention to the evaluation of whether there is residual neuralgia and safety, pay attention to

the long-term efficacy and safety of clinical treatment, improve the methodological quality of the experiment, provide higher-level research evidence and guide clinical practice.

In a word, the application of Ji Desheng snake medicine combined with routine antiviral therapy can improve and shorten the recovery time of patients. Therefore, in order to shorten the recovery time of patients, Ji Desheng snake medicine can be properly combined with routine antiviral in the clinical treatment of herpes zoster.

On the other hand, Ji Desheng snake medicine combined with traditional Chinese medicine and acupuncture to treat herpes zoster can improve the curative effect to some extent. Therefore, in the clinical treatment of herpes zoster, Ji Desheng snake medicine, traditional Chinese medicine and acupuncture can also be properly selected.

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