



## **RESEARCH PROGRESS OF FIRE NEEDLE THERAPY IN TREATMENT OF ACNE VULGARIS**

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### **ABSTRACT**

Acne is one of the most common dermatological disease affecting mainly teenager. Due to its chronicity, sequel is life long. Acne not only causes physical disfigurement but also causes psychological impact.its treatment duration is long with many side-effect so, many doctors have tried to shift from conventional method to complementary method. Fire needle is one of the traditional Chinese therapy which is being used in many dermatological diseases. Fire needle is simple procedure with less side effects.it has shown good clinical efficacy for treating acne. It can be used as primary treatment or in combination with other medication for treatment of acne. This review briefly focuses on research Progress of fire needle on treatment of acne vulgaris.

## INTRODUCTION

Acne also known as acne vulgaris is a chronic, multifactorial disease of the pilosebaceous unit. It is one of the common skin diseases affecting more than 85% of adolescents (1). It mainly affects the face and trunk areas. The patient presents with pleomorphic lesions, consisting of comedones, papules, pustules, cyst, and nodules with varying severity. Though acne may be self-limiting the sequelae can be lifelong. The combined effect of acne and its sequelae frequently results in psychosocial morbidity (2). Post acne scar not only results in physical scarring but also leads to emotional and mental scarring. Studies have shown that many acne patients experience shame(70%), embarrassment, and anxiety. Suicide in acne patients has been reported in the literature (1). Conventional forms of the moderate and severe form of acne treatment provide control of disease for many patients, however, most medications used to treat acne have severe side effects or inconvenience. Considering different serious long-term side effects, at present dermatologists and many patients have sifted from conventional to alternative treatment options. Acupuncture therapy is one of the most successfully researched Chinese methods of treating different skin diseases including acne vulgaris.

### **History of fire needle:**

In ancient times, fire needle was called burnt needle, maidservant needle, burning needle, etc. the written record of the first application of fire needle therapy began in the Yellow Emperor's Internal Classic. With the development of society, fire needle can be inherited and innovated, and its clinical application scope is also expanding, and a remarkable curative effect has been achieved. At present, fire acupuncture has been widely used in the field of Dermatology, especially in the treatment of acne.

### **Principle for use of Fire Needle Therapy:**

Acupuncture, one of the Traditional Chinese Medicine Therapy, has been used to treat human disease for more than 2000 years. Fire needle therapy is a type of acupuncture therapy that has both needle stimulation and thermal stimulation that shows both conventional acupuncture and moxibustion. It has also advantaged regarding safety, cost, and effectiveness. In China, Fire Needle therapy is a part of Acne Treatment Guidelines (3). It also has the effects of removing blood stasis and dispersing nodules, warming channels, and collaterals, and removing pus. The treatment of acne can be regarded as a method of sweating. It has shown that fire needle can improve local tissue edema, reduce congestion and adhesion as a result local blood flow increases. Compared with before the white blood cell of the patient after fire needle therapy was increased, it enhances their phagocytic property resulting in anti-inflammatory and anti-infection(4) capacity. Fire Needle can be used to open the meridians to the outside by burning the acupuncture points of the human body, so that visible pathogenic factors such as pus, blood stasis, and dampness and invisible pathogenic factors such as pathogenic-heat, pathogenic-wind, pathogenic-cold, pathogenic-damp, pathogenic-fire, are discharged from the pinholes (3).

### **Fire needle as a monotherapy:**

There are several studies done on moderate to severe acne where fire needle is used as a

monotherapy in the treatment group and different pharmaceutical medication in the control group is given and the results are compared regarding the outcome of research and adverse effect following the treatment. Jiang et al. In 2014 have done research where the intervention group was given fire needle once every 5 days and the control group were given doxycycline tablets 100mg QID and adapalene gel once every evening for three weeks and the result showed fire needle therapy had a superior curative effect with less side effect compared to control group (5). Another study was done in 2015 by tao et al. where the intervention group was given a fire needle two times a week and the control group was given isotretinoin soft capsules for a total of 8 weeks showed fire needle has more therapeutic advantages and very few side effects than vitamin A oral treatment (6). The research was done in 2019 by jiang et al. where the control group was given erythromycin tablets 50mg twice a day orally; the treatment group was given fire needle therapy once a week for a total of 4 weeks. The result showed that the treatment group effective rate was 96.66% compared with the control group of 80.0%.

### **Fire needle therapy combined with western medicine:**

Fire needle therapy has been combined with many western medicines like clalithromycin, minocycline, and isotretinoin. Fire needle combined with western medicine has a higher effective curative rate . The research done by Jiang et al. in 2015 using fire needle once a week combined with isotretinoin capsules 0.5mg/kg/day in the treatment group and only isotretinoin capsules 0.5 mg/kg/day in the control group for 4 weeks has shown oral isotretinoin in conjunction with fire needle therapy was more advantageous than oral isotretinoin alone( $p<0.05$ ) (7). Guo et al. in 2018 researched on 80 patients with fire needle twice a week combined with clalithromycin tablets 250mg BD in the treatment group and on the other hand 250mg clalithromycin BD in the control group for a total of 2 weeks showed fire needle plus clalithromycin had superior curative effect compared to the control group and the difference was statistically significant( $p<0.01$ ) (8).

### **Fire needle therapy combined with Chinese and Mongolian medicine:**

Being a traditional Chinese therapy fire needle has often been combined with chinese medicine. A recent study done by meng et al. Where treatment group was given chinese medicine xianfang huomingyin combined with fire needle whereas control group was given minocycline and topical adapalene. After 6 weeks of treatment the curative rate was 72% in treatment group whereas 44% in control group (9). The recurrence rate was also low in treatment group (4). Fire needle can also be combined with Mongolian medicine with an obvious curative effect on acne, fewer side effects, a short course of treatment, low price, and strong patient compliance. Durina et al. In 2020, it was found that the efficacy and safety of Mongolian medicine senden-4 nano emulsion combined with fire acupuncture in the treatment of 30 patients were 20% after 7 days, 60% after 14 days, and 100% after 28 days. Side effects are also relatively low (10).

### **Other methods combined with fire needle therapy:**

Chemical peeling combined with fire needle therapy has a significant effect on the treatment of

moderate and severe acne. It can shorten the course of acne, improve the skin barrier system and prevent acne recurrence. In a recent study of 60 cases where treated with fire needle combined with chemical peeling and 30 were only given chemical peeling, the effective rate of pustular acne was 83.3% in the treatment group and 63% in the control group, and the skin lesions in the treatment group were reduced ( $P < 0.05$ ) (11).

Red and blue light combined with fire acupuncture are effective in the treatment of moderate acne, and the side effects are small after treatment. Guo et al. Studied 180 patients in 2019 where 95 patients in the experimental group were given fire needle plus red light and blue light irradiation once a week for 2 weeks. The control group was treated with red light and blue light combined with oral vitamin A. After 8 weeks, the total effective rate was 83.70% in the experimental group and 64% in the control group (12).

ALA-PDT itself is a method to treat acne, which is mainly used for moderate and severe acne. Fire acupuncture combined with ALA-PDT can significantly reduce clinical symptoms, improve clinical efficacy, reduce adverse reactions, and have good safety. In 2020, study in 300 acne patients was done which were divided into three groups: control group, fire needle group; Joint group. The control group was given antibiotics and isotretinoin orally, and the combined group was given fire acupuncture combined with ALA phototherapy for 4 weeks. After the study, the total effective rate of the combined group was significantly higher than that of the control group, with fewer side effects and a low recurrence rate (13).

## CONCLUSION

Fire needle either alone or in combination with many other modalities can effectively treat acne vulgaris. Being a traditional Chinese therapy it is used less in combination with western medicine. Although fire needle therapy has achieved definite curative effect in the treatment of acne vulgaris, its uses with western medicine is less due to fewer study and research. Thus In future more research is needed to establish a guidelines for the use of fire needle all around the world.

## REFERENCES

1. Bhate K, Williams HC. Epidemiology of acne vulgaris. *Br J Dermatol.* 2013;168:474-485
2. Samuels DV, Rosenthal R, Lin R, Chaudhari S, Natsuaki MN. Acne vulgaris and risk of depression and anxiety: A meta-analytic review. *J Am Acad Dermatol.* 2020;83(2):532-541.
3. Ju Qiang. Chinese acne treatment guidelines(2019 Revision). *Journal of clinical dermatology.* 2019;49(9):584.
4. KangY-Q, Pan-P Wang-W, et al. Research on the history of fire needle development in China. *Liaoning J Trad Chin Med.* 2009;2:270-272.
5. Jiang M, Jiang K, Zeng X-Y, et al. Observation of curative effects of fire needle combined with drugs on cystic acne. *Shanghai J Acupunct Moxibust.* 2015(11):1082-1084
6. M-B-YTao. Clinical study on fire needle treatment of yang-qi qualitative cyst nodular acne [D]. Guangzhou

University of Chinese Medicine; 2015.

7. JiangM, ZengX-Y, WangW-Z.Treatment of moderate and severe acne vulgaris with fire needle. Chin Acupunct Moxibust. 2014;34(7):663-666.
8. Guo Y-Y, Quan X-R, Qin Q-R. Clinical observation on 65 cases of cystic acne treated by fire needle combined with clarithromycin. Jiansu J Trad Chin Med. 2011;43(1):63-64.
9. 孟会娟,王小丽.中药联合火针治疗重度痤疮的临床观察[J].中国中西医结合皮肤性病学杂志,2021,20(03):289-292.
10. Durina , Gao Yao-xing et al. Clinical observation on 30 cases of acne treated by Mongolian medicine sendeng-4 nanoemulsion combined with fire needle . Journal of Medicine and Pharmacr of Chinese Minorities;2020;26(2):20-21.
11. 郭杨敏 , 路涛 , 章淑平 , 等 . 火针联合红蓝光治疗中度寻常型痤疮疗效观察 [ J ] . 皮肤性病诊疗学杂志 , 2019 , 26( 4 ) : 229 - 231.
12. 付昱,姜敏,孙洁.火针联合果酸治疗痤疮疗效观察[J].中国美容医学,2014,23(01):63-65.
13. 王文娟.火针联合艾拉光动力治疗难治性痤疮[J].中国美容医学,2020,29(1):145-147,165.