

Clinical Research Progress of Fire Needle Acupuncture in the Treatment of Alopecia Areata

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Abstract: Alopecia areata is a common disease in dermatology. It is a localized non-inflammatory alopecia that occurs in the head. Its etiology is unclear, but it is thought to be related to a number of factors. At present, there are many methods of treatment with different curative effects. Fire needle acupuncture directly acts on skin lesions, dredges meridians, and regulates Qi and blood. It has a good curative effect. This paper reviews current research progress of fire acupuncture in the treatment of alopecia areata, in order to provide some diagnostic and treatment suggestions for the management of alopecia areata.

Keywords: Fire needle acupuncture; Alopecia areata; Research progress

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1. Introduction

Alopecia areata is a sudden non-scarring localized alopecia that can affect all age groups. However, middle-aged and younger age groups are particularly susceptible. It is characterized by the sudden occurrence of prototype or oval hair loss areas with a diameter of 1-10 cm and varying quantities. The affected skin is smooth without any inflammatory scales or scars. This condition is recognized in traditional Chinese medicine as “Youfeng,” which is commonly known as “ghost shaving.” Its main pathogenesis is the deficiency of liver and kidney, as well as essence and blood^[1]. Its etiology is unknown in western medicine, although it is generally considered to be an immune response, mediated by T cells with hair follicles as the target organ, and is closely related to genetic, emotional, autoimmune, and other factors^[2]. Fire needle acupuncture has played an important role in the treatment of alopecia areata. This paper reviews the current research progress of fire needle acupuncture in the treatment of alopecia areata.

2. Traditional Chinese medicine's understanding of alopecia areata

In the Sui Dynasty, Yuanfang Chao's “General Treatise on the Cause and Symptoms of Diseases” states that baldness occurs when meridians are deficient. According to “Surgery of Chinese Medicine,” alopecia areata can be divided into blood heat and wind dryness, Qi stagnation and blood stasis, deficiency of Qi and blood, as well as deficiency of liver and kidney. Yan Yan found that the occurrence of alopecia areata is closely related to the physique and emotions of the patient^[3]. Guowei Xuan believes that the disease is a mixture of deficiency and excess, as well as the struggle between good and evil^[4]. Its pathogenesis is related to the deficiency of liver, kidney, Qi, and blood, as well as turbid evil, such as phlegm, dampness, and blood stasis. Shengqiang Wang and other researchers believe that liver and kidney deficiency, as well

as Qi and blood deficiency are the main pathogenesis of the disease.

3. Current treatment

Although some people with alopecia areata have the propensity to recover on their own, they are at risk of recurrence. There are many treatment methods for the disease, the most common of which are local topical application, systemic treatment, and physical therapy. Topical glucocorticoids are widely used at present and are usually the first-line treatment for localized alopecia areata. Using glucocorticoids alone is ineffective, and its long-term use may lead to folliculitis, skin atrophy, thinning, and telangiectasia ^[6]. Contact sensitizers are unstable and costly; in addition, edema, urticaria, and other side effects may occur with its use. The most common side effects seen with the use of anthralin are folliculitis, contact dermatitis, pigmentation, and so on. For systemic treatment, compound glycyrrhizin is combined with minoxidil solution, which is effective and safe in the treatment of alopecia areata. There is no standardized treatment plan for glucocorticoids, methotrexate, cyclosporine, and Janus kinase (JAK) inhibitors, which may cause side effects, such as liver injury, gastrointestinal reaction, nephrotoxicity, hypertension, and hyperlipidemia. Physical therapy includes photochemotherapy, 308-nm excimer laser, and narrow-spectrum UVB. This kind of therapy has a limited range of applications and has low efficiency. In traditional Chinese medicine, there are many methods of treating alopecia areata, the most common of which are internal treatment (nourishing liver and kidney, strengthening spleen and kidney, supplementing Qi and nourishing blood, dispelling wind, removing blood stasis, as well as soothing liver and regulating Qi) and external treatment (acupuncture, plum blossom needle, fire needle, moxibustion, and external application of traditional Chinese medicine). Traditional Chinese medicine causes less side effects and is often well-tolerated by patients ^[7]. The integrated treatment of alopecia areata with traditional Chinese and western medicine is widely used in clinical practice, among which fire needle acupuncture is highly recognized.

4. Fire needle acupuncture

The “Yellow Emperor’s Canon of Internal Medicine” records the traditional fire needle acupuncture therapy. In ancient times, fire needle was known as “burning needle.” The use and development of needles have gone through a long historical process. While gradually developing the types of needles used, the use of fire needle acupuncture in clinical practice has also made significant breakthroughs. Traditional Chinese medicine believes that fire needle acupuncture has the effect of strengthening yang, dispelling wind and dampness, warming meridians and dredging collaterals, eliminating blood stasis and dispersing knots, as well as dispelling evil and inducing heat. In recent years, fire needle acupuncture has been widely used in the treatment of dermatological diseases. The dual stimulation by needles and moxibustion warms and dredges the meridians as well as disperses cold and removes blood stasis. It is a straightforward therapy with a definite curative effect ^[8]. Recent studies assert that fire needle acupuncture can improve local blood circulation through heat stimulation. The fire needle directly acts on the affected part by pricking it to improve blood circulation, which will aid in the treatment of certain diseases. Fire needle acupuncture involves burning the needle till it turns red and placing it at a specific acupoint or the skin lesion itself. It has several advantages, including a direct access to the disease site, safe to use, and simple to operate. In addition to regulating Qi and blood, this therapy can also dispel evil and strengthen health ^[9].

5. Use of fire needle acupuncture in the treatment of alopecia areata

Fire needle can act directly on skin lesions, thus dredging channels and activating collaterals as well as regulating Qi and nourishing blood. According to literature reviews, the overall efficacy of combined fire needle acupuncture in the treatment of alopecia areata is better than that of the control group, especially in regard to safety. Professor Puren uses fire needle acupuncture to treat alopecia areata. Upon identifying

specific acupoints, he uses acupuncture to dispel the evil of cold and heat as well as encourage the growth of Qi and blood ^[10].

5.1. Fire needle acupuncture combined with western medicine

In a study, Dandan Wu and other researchers used fire needle acupuncture combined with 5% minoxidil tincture to treat 40 cases of alopecia areata ^[11]. In the control group, 5% minoxidil tincture (Mandi) was applied over hair loss areas. The effective rate of the treatment group was 92.5%, while that of the control group was 67.5%; in addition, the treatment cycle was shorter for the treatment group compared to the control group. In another study, fire needle acupuncture was combined with minoxidil solution for treating 66 patients with alopecia areata ^[12]. The patients were divided into two groups, with 33 cases in each group. The patients treated with minoxidil alone were deemed as the reference group, while the other 33 patients who were treated with fire needle acupuncture combined with minoxidil solution were deemed as the research group. The total effective rate of the patients in the research group was 96.9%. The combined therapy improved their symptoms and was considered safe to use, as no serious side effects occurred among the patients.

5.2. Fire needle acupuncture combined with Chinese medicine

Yuan Zhao investigated the clinical efficacy of Gufa decoction combined with fire needle acupuncture in 120 patients with alopecia areata with liver and kidney deficiency and concluded that the therapy can effectively improve skin lesions and regulate the expression levels of IL-17 and IL-22 ^[13]. Xiaojie Leng randomly divided 60 patients with alopecia areata into two groups, and both the groups were treated with fire needle acupuncture and compound siadan tincture; in addition to that, Tongqiao Shengfa decoction (peach kernel, Carthami flos, Angelica dahurica, Ligusticum chuanxiong, red peony, Angelica sinensis, Radix rehmanniae, Radix Polygoni Multiflori, Semen cuscutae, jujube, green onion, and ginger) was added to the therapy for the patients in the treatment group, whereas the patients in the control group received an additional compound glycyrrhizin capsule. After six weeks, the results showed that the total effective rate of the treatment group was 90%, and that of the control group was 66.7%, in which the difference was statistically significant.

6. Conclusion

In conclusion, as an external treatment of traditional Chinese medicine, fire needle acupuncture is known to have great clinical value, simple to operate, safe to use, and effective, without causing any serious side effects. It is often combined with traditional Chinese medicine or western medicine in the treatment of alopecia areata. In the above literature review, the efficacy of fire needle acupuncture in the treatment of alopecia areata has been verified, but there is still room for improvement in several aspects. First, the sample size of previous clinical trials is small, and there is a lack of systematic research with large samples. Second, in view of different reference materials, there are different scoring items and standard bases, resulting in interference when selecting treatment methods. Third, most of the studies are limited to clinical practice; hence, there is a research paucity on important mechanisms. Fourth, there is no standardization in the depth and frequency of acupuncture, the exact distance between acupoints, the selection of needles, as well as the density of acupuncture. Fifth, discomfort experienced during fire needle acupuncture should be addressed with solutions. Lastly, although the combined fire needle acupuncture therapy has been widely used in clinical practice, its curative effect still requires higher-level evidence-based medicine. Therefore, in future studies, researchers should standardize the fire needle acupuncture therapy and form a set of standardized and effective operation methods, so as to ensure a standardized therapy and encourage its widespread use in the treatment of alopecia areata.

Disclosure statement

The authors declare no conflict of interest.

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