Clinical Research Progress of Different Acupuncture and Moxibustion Therapy for Perimenstrual Insomnia

Weichen Si
Shanghai University of Traditional Chinese Medicine, Shanghai 201203, China
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Abstract: Perimenopausal insomnia often shows the lack of quality or quantity of sleep, such as hard to sleep, wake up earlier, easier to wake up, and often accompanied by irritability, dizziness, palpitation, the symptom such as sweat out, hot flashes, night sweats, or mood problems such as depression, anxiety. The incidence of it increased year by year, the symptoms affects the work and daily life of modern women severely. Modern medicine believes the decline in estrogen levels is the cause, so hormone replacement therapy (HRT) is often used in clinic. But its side effects and drug dependence are much criticized. Traditional Chinese Medicine (TCM) believes that the deficiency of kidney is the root cause, leading to the imbalance of Yin and Yang. Acupuncture, as an effective therapy without side effects and obvious dependence, is now attracting more and more attention. This review mainly sums up by the selecting of acupoints, the location and the depth of the acupuncture therapy and other therapies recorded in published reports of treating insomnia in perimenopause, hoping it will be helpful to clinical treatment.
***Keywords*:** acupuncture and moxibustion, perimenopause, insomnia, review

The perimenopausal syndrome refers to a transitional period from the gradual decline of ovarian function to its final disappearance. Along with endocrine disorders comes a series of mainly autonomic dysfunction syndrome, in which insomnia, as the most common symptom, affects women's work and life.

1. Etiopathogenesis of perimenopausal insomnia

Modern medicine considers the decline in oestrogen levels[1] as the most prominent cause of insomnia for women in in perimenopause. The decline of ovarian function and the diminished suppression of the pituitary by estrogen lead to an imbalance in the hypothalamic pituitary ovarian axis, with degeneration and metabolic disturbances produced by estrogen receptors on various cells, resulting in autonomic disorders to insomnia. Therefore, the treatment is primarily aimed at relieving the symptoms of perimenopausal insomnia through estrogen supplementation. However, the long-term use of hormonal therapy as well as its side effects have been increasingly called into question [2-3]. Meanwhile, the symptoms of insomnia during perimenopause are also closely related to some extrinsic factors, such as the ethnicity, age, living situation, and psychology of its population.

2. Different acupuncture treatments for perimenopausal insomnia

2.1 Simple acupuncture

There are quite a few reports on clinical acupuncture for the treatment of perimenopausal insomnia, of which the single acupuncture method is the most used. The following will be summarized based on the difference between the acupuncture acpoints and the depth of the needle.

2.1.1 Acupuncture at different locations

(1) Acupuncture at body

Guiling Zhu[4] divided 60 patients into a body acupuncture group and a control group using acupuncture at acupoints GV29, GV20, EN-HN1, HT7, PC6, JLSXX-QX. The control group received oral diazepam 2.5 mg at bedtime and sitosterol 30 mg three times daily, and the results showed that the overall effectiveness rate of body acupuncture group was better than that of the control group. Mengke Yu[5] divided 144 patients into body acupuncture group and TCM group, body acupuncture group was treated with acupuncture at acupoints such as GV20, SP6, BL17, and HT7 and control group was treated with TCM, the results showed that the total effectiveness rate of acupuncture was more than 95% which was much higher than 68% in TCM group.

(2) Acupuncture at head

Xiuyu Cheng[6] divided 124 patients into a head acupuncture group and a control group, with 10 days one treatment, in total two treatments. The head acupuncture group selected acpoints GV20, EN-HN1, GV29, GV23, GV24 for acupuncture treatment, and the control group received 1 mg estazolam half an hour before bedtime every day, resulting in an overall response rate of 95.2% in the head acupuncture group and higher efficacy in the head acupuncture group than in the control group. Therefore, the acupuncture at head has definite efficacy for the treatment of perimenopausal insomnia.

(3) Acupuncture at abdomen

Xuhong Yu[7] divided 58 patients into an abdominal acupuncture group and a control group, and the abdominal acupuncture group was treated with abdominal acupuncture once a day for 2 weeks as a single session for a total of 2 sessions, while the control group was treated with conventional western medicine with a regular eating pattern while taking mirtazapine tablets 15-30 mg at bedtime and gavage tablets 10-30 mg three times a day. The results showed that the abdominal acupuncture group had a higher effect than the control group, and it was seen that abdominal acupuncture could improve the sleep quality of perimenopausal insomnia [8].

2.1.2 Acupuncture at different depths

Differences in the efficacy of acupuncture at different depths have been reported by clinical investigators.

(1) Shallow puncture

Zhao Xia[9] divided patients into shallow acupuncture group and body acupuncture group, shallow acupuncture group was selected to treat with shallow acupuncture at acupoints such as GV20, and body acupuncture group was selected with HT7, PC6, GV20, conventional acupuncture. These two groups were treated once daily for a total of 10 times, and the results showed that the efficacy of the two kinds of acupuncture was generally consistent, but the shallow acupuncture possessed the advantage of "no pain and no trauma".

(2) Pyonex

Nairong Li[10] divided 66 patients into pyonex acupuncture group and control group, pyonex acupuncture group was treated with long manubrium prune once every other day, the control group took oryzanol 20mg and vitamin B1 3 times a day. The pyonex group focused on percussion at BL23, lumbosacral site and the surroundings of navel. The results of treatment in the two groups after two months showed that estradiol (E2) increased, follicle stimulating hormone (FSH) decreased, and luteinizing hormone (LH) did not differ significantly between the treatment groups after treatment. It also illustrated that pyonex stimulates the skin on both sides of the spine are beneficial for improving perimenopausal hormone levels, while the skin on both sides of the spine is connected to the viscera via segmental innervation. When the skin on both sides of the spine is buckled with a pyonex, the sensory nerve fiber afferents to the center and then regulates the corresponding internal organs with the involvement of neurohumoral, thereby playing a therapeutic role. But whether this endocrine regulating effect is one of the mechanisms for its treatment of insomnia, which still needs to be further explored.

2.2 Other acupuncture methods

2.2.1 Moxibustion

Xing Wen[11-12] divided 60 patients into simple electroacupuncture(EA) group and EA combined with moxibustion group by acupuncture at cv4 and SP6 with dense wave EA stimulation for 30 min once every other day for three treatments per week for 4 weeks. In the combination group, moxibustion by GA columni on the basis of electroacupuncture was applied at BL23, BL15, BL18, and BL20, the results showed that moxibustion combined with electroacupuncture had better efficacy than simple electroacupuncture in improving patients' sleep falling, shallow sleep, and waking early.

In addition, Ling Hu suggested that EA could decrease serum LH and FSH levels and also increase serum E2 and hypothalamus in a perimenopausal model of β Endophilin (β- enkorphin, β-EP) content, and increase uterine visceral index and endometrial thickness [13-15].

2.2.2 Skin-scraping (GuaSha)

Modern medicine considers "Sha" as the process of gradual dilation of skin capillaries rupturing bleeding, and ecchymosis resolves spontaneously after two or three days. This process can not only promote cell metabolism, activate physiology, and enhance body immunity, but also function to regulate brain excitation and inhibition. The manipulation of Guasha on acupoints is the dual effect of acupoint therapy and autohemolytic therapy.

Meng Fang [16] divided 60 patients into control and treatment groups, the control group was treated with conventional Chinese medicine, the treatment group was given Guasha treatment on the basis of the control group, GV24, GV20, EN-HN1, BL15, BL18, BL23, bl20, bl17, HT7, Ki1, KI3, KI6 acupoints were selected, and Guasha was once a week for a total

of 8 treatments. The results showed that the treatment group was significantly better than the control group in improving sleep quality, time spent asleep, sleep efficiency, sleep disturbance and daytime dysfunction, while the treatment group showed a rising trend in E2 and a decreasing trend in FSH and LH. Peng Dezhong[17] divided 114 patients into treatment group and control group, the control group took diazepam tablets 5-10mg at bedtime once daily, treatment group was treated with Guasha treatment once daily for 30min, three times a week on Tuesday, Friday and Sunday. After continuous treatment for 3 months, they found that Guasha treatment had good efficacy for improving sleep treatment of perimenopausal patients.

3. Discussion and conclusion

Perimenopausal insomnia is one of the most common symptoms in perimenopausal syndromes, meanwhile with the increasing social pressure now, the incidence of perimenopausal insomnia is increasing year by year. An epidemiological survey of perimenopausal syndromes showed that the prevalence of insomnia is high among Chinese women with perimenopausal symptoms, which far exceeds the classical perimenopausal symptoms of European women. Acupuncture therapy, as a treasure of traditional Chinese medicine, has the characteristics of no drug dependence as well as high efficacy, which deserve to be widely used and promoted.

After a collated induction of the literature over the last decade, the author observed that the acupoints HT7, GV20, GV29, and BL15 are selected most frequently for acupuncture treatment of perimenopausal insomnia.

A large body of literature also shows that different acupuncture therapies have efficacy for perimenopausal insomnia and are safe without side effects. Much literature also suggests that combining multiple methods, whether a combination of acupuncture drugs or a combination of different acupuncture methods, is more effective than using one treatment method alone. However, studies on the timing of acupuncture intervention as well as the frequency and course are missing, and only a few literatures suggest acupuncture timing, such as one study[18] showing higher therapeutic efficacy than other times in afternoon submission time, fewer such studies on acupuncture, and little mention of adverse effects in the literature. The diagnostic criteria for the efficacy of insomnia in the perimenopausal period are also vague and mainly divided into two types. One is using the efficacy discriminant criteria for insomnia, such as the Pittsburgh sleep quality index (PSQI), the international standard sleep efficiency value (sleep rate), *Guiding Principles for Clinical Research on New Drugs for Chinese Medicine*, and the efficacy criteria for insomnia in the Assens scale. The other is the lack of targeted efficacy discriminant criteria using perimenopausal syndromes such as the Kupperman index as well as hormones E2, FSH, LH, etc.

In recent years, an increasing number of studies have begun to focus on the issue of the timing of acupuncture interventions. Jian Wang[19] suggested that the best time to treat perimenopausal syndrome should be in the early stage of perimenopause, that is, intervening in perimenopausal syndrome during menopausal transition might be the optimal treatment period. Jin Yabei[20] and others found that EA treatment on rats with perimenopausal syndrome was optimal, and the efficacy showed a decreasing trend with the delay of EA intervention time, suggesting that EA intervention on rats with perimenopausal syndrome is more important for prevention and early treatment [21-22].

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