

Clinical Observations

Acupuncture plus Cupping for Treating Insomnia in College Students

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Objective: To observe clinical therapeutic effect of acupuncture plus cupping for treating insomnia in college students. **Methods:** Ninety two college students suffering from insomnia were randomly divided into a treatment group (52 cases) and a control group (40 cases). Acupuncture plus cupping was used for profiting the brain and tranquilizing the mind in the treatment group, and conventional differentiation of symptoms and signs was used in the control group. Therapeutic effect, number of treatment, self-rating sleeping scaling (SRSS), and subtracted rate were evaluated after one month of treatment. **Results:** There was a significant difference in effective rate between the two groups ($P<0.05$). For the cases with moderate insomnia, the effective rate was obviously better in the treatment group than that in the control group ($P<0.05$), and for the cases with slight and moderate insomnia, the average treatment number was remarkably less in the former than that in the latter ($P<0.01$). SRSS was reduced in both groups ($P<0.01$, $P<0.05$) with a significant difference between the two groups ($P<0.05$). The subtracted rate in the former was more than that in the latter ($P<0.05$). **Conclusion:** The therapeutic effect in the treatment group was better than that in the control group, showing superiority in the cases with moderate insomnia with less treatments and more improved and cured rates.

Key words: insomnia; sleep; acupuncture; moving cupping up and down; college student

Insomnia is a sleeping disorder most commonly encountered. According to investigation, 43.8% of general people do not have good sleep with college students ranking at the first in insomnia severity among the population including middle school students, employees and soldiers.^{1,2} Therefore, college students suffering from insomnia are the very crowd that needs to be paid close attention. Emphasizing the principle of profiting the brain and tranquilizing the mind, the authors have treated 52 cases of college students suffering from insomnia by acupuncture plus cupping. It is reported as follows.

CLINICAL MATERIALS

General Data

Ninety two college students suffering from insomnia were all from the clinic of Hospital of Liaocheng University. They were randomly divided into a treatment group (52 cases) and a control group (40

cases). Of the 52 cases in the treatment group, 28 cases were male and 24 cases female, ranging in age from 19 to 25 years (mean 22.3 years), and in course of disease from 1 month to 5 years (mean 29.6 months). Of the 40 cases in the treatment group, 21 cases were male and 19 cases female, ranging in age from 18 to 25 years (mean 21.9 years), and in course of disease from 1.5 months to 5 years (mean 27.8 months). No cases had been treated by sleeping pills. There was no significant difference in gender, age, course of disease and severity ($P>0.05$) between the two groups, showing they were comparable.

Criteria for Diagnosis

Grading was made according to both the Criteria for Insomnia included in *Chinese Classification and Criteria for Mental Diseases* (the 3rd edition) and the

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Self-rating sleeping situation scaling (SRSS) established by LI Jian-ming.³ In SRSS, 10 items were included, and each was estimated as 1 to 5 grades and as 10 to 50 scores representing the increasing severity of sleeping problem. According to LI Jian-ming's criteria, the cases with scores being ≤ 22 were evaluated as the cases with normal sleeping situation, those being 23–29 as with mild sleeping disorder, those being 30–39 as with moderate sleeping disorder, and those being 40–50 as with severe sleeping disorder.⁴

Criteria for Case Inclusion

The cases that in accord with the criteria for insomnia mentioned above with sleeping scores (SRSS including 10 items) being ≥ 22 without history of severe systemic disease, alcoholic nor drug dependence were included in this observation.

METHODS

Treatment Group

Profiting the brain and tranquilizing the mind were taken as the principle for treatment. Baihui (GV 20), Shangxing (GV 23), Yintang (EX-HN3), Neiguan (PC 6), Shenmen (HT 7), Zusanli (ST 36), Sanyinjiao (SP 6) and Taichong (LR 3) were selected. Filiform needles of 25 mm and 40 mm in length and 0.25 in diameter were used to insert backward and transcutaneously into Shangxing (GV 23) and Baihui (GV 20) to the depth of 13–20 mm, and the needles were rotated for reinforcing to produce local distending sensation. For Yintang (EX-HN3), a needle was transcutaneously inserted toward the root of nose to the depth of 13–20 mm, and a rotating maneuver for reducing was used to cause local soreness. For Neiguan (PC 6), a needle was perpendicularly inserted to the depth of 13–20 mm, and a rotating maneuver for reducing was used to cause local soreness or electrical stimulation radiating to the middle finger. For Sanyinjiao (SP 6) and Zusanli (ST 36), needles were perpendicularly inserted to the depth of 20–30 mm, and a rotating maneuver for reinforcing was used to cause local soreness. For Shenmen (HT 7), a needle was

perpendicularly inserted to the depth of 13–20 mm, and a rotating maneuver for reinforcing was used to cause local soreness. For Taichong (LR 3), a needle was perpendicularly inserted to the depth of 13–20 mm, and a rotating maneuver for reinforcing was used to cause local soreness. The needles remained for 30 minutes, and the treatment was given once daily for consecutive 6 days weekly with one day off each week. Moving cupping up and down was applied in the following way: with couplant smeared on the back, cupping after flash of fire was made along bilateral side of the spinal column by evenly moving cupping up and down to cause appearance of atropurpureus dots. The treatment was given once every other day with 3 times weekly.

Control Group

The patients were differentiated into four syndromes based on their symptoms, tongue and pulse manifestations.⁵ For the cases with the heart and spleen deficiency, Pishu (BL 20), Xinshu (BL 15), Shenmen (HT 7) and Sanyinjiao (SP 6) were selected; For those with hyperactivity of fire due to *yin* deficiency, Daling (PC 7), Taixi (KI 3), Shenmen (HT 7) and Taichong (LR 3) were selected; For those with disturbance of the stomach, Zhongwan (CV 12), Fenglong (ST 40), Lidui (ST 45) and Yinbai (SP 1) were selected; For those with liver-fire disturbing upward, Xingjian (LR 2), Zuqiaoyin (GB 44), Fengchi (GB 20) and Shenmen (HT 7) were selected. Point prescriptions were modified according to symptoms. A reinforcing maneuver was mainly used for the cases with deficiency and a reinforcing maneuver used for those with excess. The way of moving cupping up and down was similar to that applied in the treatment group.

Criteria for Therapeutic Effect

According to *the Standard for Diagnosis of Diseases and Therapeutic Effects for insomnia in TCM* set by the State Administration of Traditional Chinese Medicine, normal sleep with disappearance of insomnia was evaluated as cured, prolonged sleep duration with alleviated insomnia evaluated as improved, and no alleviation of insomnia evaluated as failed. Treatment numbers, SRSS scores, and

decreased rate calculated by ((scores before treatment – scores after treatment) / scores before treatment × 100%) were taken as assisted indices for observation.

Statistical Analysis

SPSS12.0 software was used for statistical analysis. Comparison of rates was made by χ^2 test, that of non-numerical indices for independent sample made by rank-sum test, that of quantities before and after

treatment made by paired *t*-test, and that of independent samples among groups made by *t*-test.

RESULTS

Comparison of Therapeutic Effect

Comparison of total effective rate and treatment numbers of two groups are shown in Table 1.

Table 1. Comparison of therapeutic effect and treatment numbers

Group	Severity	Cases	Treatment Number	Cured	Improved	Failed	Effective Rate
Treatment	Mild	13	8.6**	13	-	-	100%
	Moderate	35	15.2**	26	7	2	94.29%
	Severe	4	26	1	1	2	50%
	Sum	52	11.6**	40	8	4	92.31%*
Control	Mild	9	12.9	8	1	-	100%
	Moderate	28	20.8	13	9	6	78.57%
	Severe	3	26	-	1	2	33.33%
	Sum	40	19.4	21	11	8	80.00%

Notes: * $P < 0.05$; ** $P < 0.01$, compared with the control group.

There was a significant difference in effective rate between the two groups ($P < 0.05$). In terms of severity, for the cases with mild insomnia, the effective rate was 100% for both groups ($P > 0.05$), for the cases with moderate insomnia, the effective rate was obviously better in the treatment group than that in the control group ($P < 0.05$). Cases with severe insomnia were not enough for statistical analysis, but there was a tendency that the effective rate in the former group was better than that in the latter. For the

cases with mild and moderate insomnia, the average treatment number was remarkably less in the former than that in the latter ($P < 0.01$).

Comparison of SRSS and Subtracted Rate

SRSS was very significantly reduced in the treatment group ($P < 0.01$) and significantly reduced in the control group ($P < 0.05$) with a significant difference between the two groups ($P < 0.05$). The difference in subtracted rate between the two groups was of significance (Table 2).

Table 2. Comparison of SRSS and subtracted rate

Group	Cases	Before	After	Subtracted Rate
Treatment	52	31.54±3.62	21.31±3.16**★	32.40%★
Control	40	32.61±3.73	24.56±3.21*	24.15%

Notes: * $P < 0.05$; ** $P < 0.01$, compared before and after treatment; ★ $P < 0.05$, compared with the control group.

TYPICAL CASE

A college student in grade 4, aged 22, paid his first visit on November 26, 2006. He suffered from insomnia with difficulty in falling asleep, light sleep and early waking up with gradual reduced sleep

duration from 7 hours to 3 hours each night due to strong stress caused by preparing examinations for entrance of post-graduate study. In the recent one week, he could hardly fall asleep until about 3 o'clock before dawn, for which he complained of

being exhausted and depressed with difficulty in thinking, with slow reaction, inattention and descending memory, even loss of confidence for study and entrance examination for post-graduate study. By SRSS, he was evaluated to have 36 scores. He was then treated by acupuncture at Baihui (GV 20), Shangxing (GV 23), Yintang (EX-HN3), Neiguan (PC 6), Shenmen (HT 7), Zusanli (ST 36), Sanyinjiao (SP 6) and Taichong (LR 3). The needles were retained for 30 minutes, during which the needle manipulation was made once every 5 minutes, and the treatment was given once daily. In addition, moving cupping was applied on the back, which was given once every other day. After the first treatment, he could fall asleep with obvious improvement. After 3 treatments his sleep was normalized, and he could even fall asleep faster than before insomnia occurrence with about 7-hour sound sleep. With disappearance of insomnia, he felt full of spirit for study. Continuous 3 treatments were given for solidifying the therapeutic effect. A follow-up made 1 month later showed that he had had good sleep only with occasional difficulty, in which he needed 30–60 minutes to fall asleep with 15 scores in SRSS, for which he was evaluated as clinically cured.

DISCUSSION

The ultimate pathological turnover of insomnia, no matter it is of deficiency or excess, is of restlessness. Excess-induced insomnia is caused by disturbance of mental activities, and deficiency-induced insomnia caused by hypofunction of mental activities. For treating the disease, profiting the brain and tranquilizing the mind should be stressed and taken as fundamental aspect. In the present observation, points were selected based on the second main group of points for inducing resuscitation, in which some points were omitted and Shenmen (HT 7), Zusanli (ST 36) and Taichong (LR 3) were added.⁶ Since the cause and pathogenesis of insomnia are different to those of apoplexy, needling manipulation should be different. The maneuver for inducing resuscitation was harsh, but lenitive for insomnia. Both Shangxing (GV 23) and Baihui (GV 20) belong to the Governor Vessel, which runs into the brain, and gets to the

vertex to converge with the Liver Meridian. It is connected with the Conception Vessel, and it origins from the same place as both Conception and Chong Vessels. Therefore, acupuncture at Shangxing (GV 23) and Baihui (GV 20) can regulate *yin* and *yang*, replenish essence and tonify marrow, so as to profit the brain and tranquilize the mind. Pertaining to Extraordinary Meridians, Yintang (EX-HN3) is located in the cranial-facial region and in the pathway of the Governor Vessel, and it can be used to open the orifice and activate mental activity. As the connecting point of the Pericardium Meridian of Hand-Jueyin, it can be used to tranquilize mind by nourishing the heart and promote flow of *qi* and blood. Being the convergent point of three meridians, the Spleen Meridian of Foot-Taiyin, the Liver Meridian of Foot-Jueyin and the Kidney Meridian of Foot-Shaoyin, Sanyinjiao (SP 6) can be used to replenish *yin*, tonify the kidney and produce marrow. The brain is the sea containing marrow, and sufficient marrow is beneficial to the brain. Needling Shenmen (HT 7) can make tranquilization by calming the mind and relieving depression. Needling Taichong (LR 3) can soothe the liver and regulate the flow of *qi* to remove depression. Acupuncture at Zusanli (ST 36) can also be used to treat insomnia of various types to make tranquilization and allay excitement in addition to nourishing *qi* and blood.⁸ Besides, moving cupping can stimulate the Bladder Meridian and Jiaji points to regulate the functions of *zang* and *fu* organs and provide tranquilization and allay excitement.

Most college students with insomnia were in moderate severity with a history of 1–5 years. In some cases, insomnia started to bother them when they were in middle schools, but usually they neglect it without any treatment. Most cases stopped their treatment by themselves when they felt better without accepting doctors' advice for continuous treatment, and they could hardly insist on sufficient treatment for strengthening curative effects. Therefore, treatment numbers given were limited in both groups. If enough treatments were given, better therapeutic effect would be achieved.

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