The Theory and Clinical Application of Back Shu Point Therapy

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Abstract: Back Shu Point refers to the acupoint where the qi of the five organs and six organs is infused into the back. Most doctors believe that Back Shu Point is mainly used to treat organ diseases and related diseases. In recent years, based on the development of neurophysiology, the scope of treatment of Back Shu Point has been continuously expanding. The Back Shu Point can be widely used in digestive system diseases, nervous system diseases, skeletal motor system diseases, and so on. The therapeutic effect of Back Shu Point has been recognized in many literature, but due to limited research conditions and limited sample size, the experimental research is not in-depth enough, and the evidence for the therapeutic effect of some diseases is unclear. In the future, the mechanism of treating various diseases with the Back Shu Point can be explored from the perspective of modern medicine, in order to more accurately use the Back Shu Point to guide clinical treatment.

1. Introduction

Stimulating the Back Shu Point can regulate the meridian qi of the five organs and six organs, and has a direct impact on their functional activities. According to modern anatomy, the distribution of the Back Shu Point in the human body is close to the position of the viscera corresponding to the back in modern medical anatomy. The Back Shu Point is located on both sides of the human spine, with the head fixed on the spine and the pelvis connected below, supporting the human trunk. The spinal cord nerves pass through the spine, making it the main trunk of the body. At present, with the continuous exploration of various studies, the application scope of Back Shu Point is gradually expanding, and it has been applied to diseases and tumor diseases in various systems. The meridian theory, applied anatomy, and preliminary discussions on Back Shu Point are now being conducted. The treatment methods and research results of Back Shu Point are systematically described.

2. The Theoretical Basis of Back Shu Point Therapy

2.1. Meridian theory of Back Shu Point

The first appearance of the Back Shu Point is in the "Neijing": "I am willing to hear the acupoints of the five organs, which originate from the back." "The shu of the five organs are each five, and the
shu of the six organs is each six." Although the Back Shu Point was first described, the specific acupoint name was not listed. Until the "Mai Jing" clarified the names of some Back Shu Point on the back of the body. Later, the "A-B Classic of Acupuncture and Moxibustion" and "peaceful holy benevolent prescriptions" supplemented the back shu point and spread to this day. According to the current broad-spectrum view, the back shu point broadly refers to the acupoint where the qi of the organs is infused into the back and waist of the human body, and narrowly refers to the acupoint located on the first lateral line of the bladder meridian. Physicians have always had their own unique ways of locating the back shu point. Due to the diversity in the positioning of the Back Shu acupoint by ancient medical practitioners, existing research has proposed the new concept of the Back Shu functional zone [1], which is believed to be a belt shaped area that is 2.5 inches apart from the posterior midline of the human body, between the lower edge of the thoracic and sacral spinous processes. In this area, there is a synergistic and similar effect between the horizontal acupoints of the same spine, which can treat diseases related to the organs, five senses, and five body types related to the Back Shu point [2].

2.2. Applied Anatomy of the Back Shu Point

On a normal adult spine, the back shu point is located 1.5 inches below the spinous process of the thoracic and lumbar vertebrae, as well as at the midpoint of the sacral spine (transverse posterior sacral foramen). The spinal ligaments serve as a resilient connection between various vertebrae, increasing the flexibility of the lumbar spine while maintaining a tight connection between intervertebral discs, which is related to the anatomical position of the Back Shu point [3]. The nerves adjacent to the distribution range of the back shu point are the thoracic nerve, lumbar nerve, and sacral nerve. Each pair of spinal nerves is formed by the fusion of the anterior and posterior roots in the intervertebral foramen. The anterior root is composed of axons of motor neurons in the anterior horn of the spinal cord and axons of sympathetic or parasympathetic neurons in the lateral horn. Its fibers are distributed to the myocardium, skeletal muscles, and smooth muscles to innervate and control the secretion of muscle contraction glands. The posterior root is composed of spinal nerve nodes formed by the aggregation of incoming neuronal cells and axons of sensory neurons. Its terminals are distributed throughout the body and can sense various stimuli.

There is research confirming that the Back Shu point of the Bladder Meridian is closely related to the sympathetic trunk and spinal cord nerves. The lower level nerve center of the parasympathetic nervous system is located in the parasympathetic nucleus of the brainstem and the sacral second to fourth segments of the spinal cord. The parasympathetic nervous system located in the sacral vertebral segment is the basis of sacral nerve regulation, and its innervation of the pelvic floor and organs is also extensive. Its therapeutic effect on gastrointestinal and reproductive system diseases is very significant [4].

3. The Clinical Application of Two Back Shu Point Therapy

3.1. Digestive system diseases

Traditional Chinese medicine believes that gastrointestinal diseases stimulate the back shu point, stomach shu, liver shu, large intestine shu, etc. of the back shu point, which has a good therapeutic effect on digestive system diseases. The "Po Men" refers to the modern anatomy of the anus. Ancient Chinese medicine believed that the opening and closing of the "Po Men" were closely related to the qi and function of the five organs and six viscera. Therefore, the bei shu point can be used to treat distal gastrointestinal diseases.

Lin Feng diagnosed 150 cases of stomach pain, including 80 cases of stomach cold type, 41 cases...
of liver depression and spleen deficiency type, 20 cases of diet stagnation type, and 9 cases of stomach
yin deficiency type according to traditional Chinese medicine [5]. All diseases are treated by
massaging the bilateral gan shu, dan shu, pin shu, and wei shu. If there is tenderness in the back, the
main method is to massage the tenderness points or areas. If there is a long medical history or poor
diet, spinal massage is added. After massage treatment, various stomach pain symptoms caused by
diseases have been alleviated to a certain extent, with 144 cases (96%) being effective.

Li Shiyiing used embedding thread at the back shu point to treat constipation of spleen and kidney
yang deficiency type [6]. Sixty patients were randomly divided into a control group and an
experimental group, with 30 cases in each group. The control group was treated with Mosapride
citrate tablets, while the experimental group was treated with absorbable surgical suture embedding
thread at both sides of the pi shu and shen shu points. After 28 days, the improvement of traditional
Chinese medicine symptoms in the experimental group was more significant, with a total effective
rate of 76.67% in the experimental group and 56.67% in the control group. The treatment group was
significantly higher than the control group (P<0.05), and the effect of embedding thread at the back
shu point was long-lasting.

3.2. Immune system diseases

Systemic lupus erythematosus (SLE) belongs to the category of "red butterfly ulcer" and "sunburn"
in traditional Chinese medicine. It is accompanied by skin damage, abnormal organ function damage,
and imbalance of qi, blood, yin, and yang. There is a close relationship between the back shu point
and organ function. Stimulating the back shu point can stimulate and regulate organ function. Zhang
Lizhong selected 38 confirmed rheumatic outpatient patients, including 2 males and 36 females, for
treatment with buried suture in the back Shu point, including Gan Shu, Pi Shu, Shen Shu, Wei Shu,
Ge Shu, Qi Hai Shu, San Jiao Shu, and Guan Yuan Shu. Select two groups of acupoints in the above
order, and treat once a week [7]. Initially, use the hormone according to the previous dosage.
Gradually reduce the hormone dosage as the condition improves. After one year of treatment, the
total effective rate is 84.2%, indicating significant therapeutic effects.

3.3. Respiratory system diseases

The function of the dispersing and descending functions of the lung and the kidney governing
reception of air is closely related to human respiration. Stimulating the Feishu and Shenshu can
regulate the lungs and kidneys, effectively preventing and treating respiratory system diseases.

Tang Lihua randomly divided 62 patients with bronchial asthma into a control group and an
experimental group, with 31 cases in each group [8]. The control group was treated with oral
medication, while the experimental group received a combination of acupoint embedding therapy at
the back shu point on the basis of the control group. Bilateral fei shu, pi shu, and shen shu acupoints
were selected, and the catgut was buried in the subcutaneous tissue or muscle layer where the
acupoints were located. The comparison of traditional Chinese medicine syndrome scores and serum
IL-4 levels between the two groups of patients before and after treatment, as well as the observation
of asthma attacks within 3 months after treatment completion, showed that the treatment group
improved more significantly than the control group. The total effective rate of the treatment group
was 93.33%, while that of the control group was 80.00%. Therefore, it was determined that the
clinical efficacy of the treatment group was better than that of the control group.

Zhou Yue et al. selected 71 patients with chronic cough aged between 21 and 64 years old and
randomly divided them into a control group (34 cases) and a treatment group (37 cases) [9]. The
control group was treated using the methods outlined in the 2009 Diagnosis and Treatment Guidelines
for Cough, while the treatment group was treated with cupping at the Back Shu point combined with
acupuncture. Starting from Dazhu point and pushing the cupping back and forth between pangguang shu, it is advisable to avoid skin flushing. The cough symptom score (CS) of the treatment group was significantly better than that of the control group compared between the two groups of patients. After two weeks of treatment, the VAS score improvement in the experimental group was better than that in the control group, and there was a significant difference between the two groups (P<0.05). After two weeks of treatment, the three scores and total scores of the Leicester Cough Questionnaire were compared between the treatment group and the experimental group. The experimental group showed more significant improvement compared to the control group in terms of LCQ total score, as well as in the physiological and psychological fields. There was a significant difference between the two groups (P<0.05).

### 3.4. Neurological disorders

Traditional Chinese medicine theory holds that the heart is the master of the five organs and six viscera, and the heart harbors the spirit. Diseases in the five organs and six viscera can to some extent affect the mind, indicating that mental diseases are related to the five organs. Adjusting the yin and yang qi and blood of the five organs through the bei shu point has a certain therapeutic effect on neurological diseases. Existing research has confirmed the treatment of some neurological diseases with the Beishu point.

The clinical manifestations of patients with generalized anxiety disorder are many, and their symptoms are similar to those of depression in traditional Chinese medicine. In traditional Chinese medicine, depression is believed to be caused by emotional factors such as worry, sadness, and fear, which affect the corresponding organ dysfunction, resulting in pathological products such as Blood stasis, phlegm and drink, and food accumulation, which then damage the organs and cause the disease. Wu Jinling randomly divided 72 patients into a control group and a treatment group, with 36 cases in each group. The control group received routine acupuncture, while the treatment group received a combination of leopard print needling at the back shu point on the basis of routine acupuncture. The selected acupoints for the Back shu acupoint are xin Shu and gan Shu. The Hamilton Anxiety Scale (HAMA) and Self Rating Anxiety Scale (SAS) were compared before and after treatment. The results showed that the overall effective rates of the control group and the treatment group were 70.97% and 87.5%, respectively, and the treatment group was better than the control group. The treatment method of leopard print needling at the back shu point is superior to conventional acupuncture treatment [10].

Insomnia, as a common adverse reaction of various diseases, has long-term or recurrent symptoms, which have a negative impact on the social function and quality of life of patients. The treatment of insomnia through acupoint Bei shu has been clinically proven effective. Tao Hongxia included 72 patients and was randomly divided into a control group and an experimental group. The control group received drug intervention, while the experimental group received treatment with buried thread at the back shu point. After treatment, the traditional Chinese medicine symptom score and sleep quality index in the treatment group were significantly improved compared to the control group. It can be seen that embedding thread at the back shu point can significantly improve the symptoms of postpartum insomnia [11].

Poststroke sequelae involve a wide range of physical, psychological, and physiological disorders, affecting the patient's daily life, learning, and work [12]. The clinical use of Back Shu point stimulation has outstanding therapeutic effects on swallowing and motor dysfunction caused by stroke. Wang Junhua et al. randomly divided 90 patients with post-stroke hemiplegia into a control group, a treatment group, and a control group, with 30 cases in each group [13]. The routine group is treated with body acupuncture, with the main acupoint being the yang meridian point on the paralyzed limb, and a small portion of the yin meridian points being used as matching points. The control group
received trunk training program on the basis of conventional group treatment. On the basis of receiving treatment from the control group, the treatment group received combined acupuncture treatment at the Back Shu point, with the selected acupoints being Gan Shu, Pi Shu, and Shen Shu. Before and after treatment, the three groups were evaluated using the exercise score (FMA) and the modified Barthel index (MBI). The pre-treatment results showed no significant difference in the exercise score and MBI assessment among the three groups (P>0.05). The results after treatment showed that the three quality methods significantly improved the motor score and MBI assessment of patients with mid range hemiplegia, and the improvement in the treatment group and control group was better than that in the conventional group (P<0.01). It can be seen that there is no significant difference (P<0.01) in improving the motor function of stroke hemiplegic patients through acupuncture at the back shu point and trunk training.

3.5. Reproductive and urinary system diseases

Traditional Chinese medicine believes that reproductive and urinary system diseases are closely related to the liver, spleen, and kidney. Stimulating the Beishu point can effectively regulate the meridian qi and function between organs; According to Western medicine, the part of the spinal cord nerve where the Back Shu point is located controls male and female reproductive function, as well as bladder urination and urine storage. Therefore, stimulating the spinal cord nerves at the Beishu point can prevent and treat reproductive and urinary system diseases.

Zhang Xi randomly divided 80 patients with perimenopausal syndrome into a control group and a treatment group, with 40 cases in each group [14]. The treatment group selected bilateral Shenshu, bilateral Pishu, Zhiyang, and Mingmen buried thread treatment, while the control group selected bilateral Shenshu, bilateral Pishu, Zhiyang, and Mingmen acupuncture treatment. After treatment, the results showed that the serum E2 levels of both the treatment group and the control group were significantly increased, and the buried thread treatment group had a more significant increase in serum E2 levels compared to the control group (P<0.05). The levels of luteinizing hormone were compared between the two groups of patients before and after treatment, and the difference was statistically significant (P<0.05). The treatment group was more able to significantly reduce luteinizing hormone levels than ordinary acupuncture treatment. After treatment, the total effective rate of the treatment group was 92.5%, while the total effective rate of the control group was 75%, indicating that buried thread treatment is more effective than ordinary acupuncture treatment.

Chen Liang et al. selected 71 postoperative patients with anal diseases and divided them into a blank control group of 36 cases and a treatment group of 35 cases using a randomized controlled clinical trial method. The treatment group received electroacupuncture on both sides of the Bai Huan Shu and pangguang Shu acupoints. The total effective rate of the electroacupuncture treatment group after treatment was 97.14%, which was better than the blank control group. After electroacupuncture treatment, the incidence of postoperative urinary retention in the anus decreased, and there were no adverse reactions in the electroacupuncture group during treatment. The treatment method was safe and reliable [16].

3.6. Skeletal system diseases

Traditional Chinese medicine believes that the five organs are related to the five bodies. Therefore, by regulating the meridians and physiological functions of the five organs and six viscera, it has functions such as unblocking meridians and harmonizing qi and blood, and does have therapeutic effects on skeletal system diseases [15]. Chen Yongfeng randomly divided 100 patients with lumbar disc herniation into a treatment group and a control group, with 50 cases in each group [17]. The control group was treated with oral ibuprofen, while the treatment group was treated with main ridge
of a roof manipulation combined with acupuncture at the back shu point. Select bilateral pi shu, wei shu, shen shu, large chang shu, qi hai shu, guan yuan shu, small chang shu, and baliao points for the back shu point. The results showed that the total effective rate and recovery rate of the observation group were higher than those of the control group. After three months, the recurrence rate of the treatment group (4.2%) was significantly lower than that of the observation group. It can be seen that the combination of main ridge of a roof technique and Beishu point acupuncture has a high therapeutic effect on lumbar disc herniation and is worth promoting.

3.7. Treatment of Skin Diseases with Back Shu Point

Atopic dermatitis is a chronic inflammatory skin disease caused by various reasons, characterized by polymorphic skin lesions, severe itching, and varying degrees of exudation. Currently, the treatment of specific dermatitis in clinical practice is mostly carried out with hormone drugs such as anti allergic, anti infective, and immune boosting drugs, such as moisturizers, glucocorticoids, and calcineurin inhibitors [18]. However, long-term treatment with drugs is not effective and prone to recurrent attacks. Traditional Chinese medicine (TCM) believes that atopic dermatitis belongs to the category of "four bend wind", and TCM treatment has significant advantages. Acupuncture and cupping at the back-shu point are non pharmacological treatments for atopic dermatitis. They can unblock meridians, assist the righteous qi, expel evil, and harmonize the organs, thereby reducing the symptoms of atopic dermatitis skin lesions, stimulating the body's own immunity, suppressing inflammation, and achieving the goal of treating the disease.

Ling Xiaoyan et al. achieved significant therapeutic effects by using acupuncture and cupping at the back shu point to select bilateral Feishu, Xinshu, and Pishu for treatment [19]. Fu Zuwei et al. observed the clinical efficacy of acupuncture and cupping in the treatment of atopic dermatitis. 86 patients with atopic dermatitis were randomly divided into a control group and a treatment group, with 43 cases in each group. The control group was treated with oral sustained-release mizolastine tablets before bedtime, while the treatment group was treated with plum blossom needle tapping and cupping. Acupoints were selected as the lesion site, Dazhui, and bilateral Feishu, Geshu, and Xinshu. After the experiment, comparing the clinical efficacy and atopic dermatitis score standard scores of the two groups, it was found that the atopic dermatitis score standard scores of both groups showed a significant decrease, and there was a significant difference compared to before treatment. The effective rate of the treatment group was 79.1%, while the effective rate of the control group was 48.8%. There was a significant difference between the two groups, indicating that acupuncture and cupping therapy achieved better efficacy in treating atopic dermatitis [20].

3.8. Treatment of Tumor Related Diseases with Back Shu Point

Cancer pain is a common symptom and one of the most difficult to control symptoms in cancer patients, seriously affecting their quality of life. The most commonly used analgesics for cancer pain patients are opioid analgesics, which have definite therapeutic effects. However, their clinical application is limited due to their serious adverse reactions, addiction, and drug resistance [21]. In clinical practice, it has been found that needling the back-shu point has a significant therapeutic effect on cancer pain, and has a bidirectional regulatory effect on the body's immune system. The use of back-shu point to treat tumor related diseases can overcome the shortcomings of traditional medicine and leverage the advantages of traditional Chinese medicine external treatment, such as rapid pain relief, safe use, minimal adverse reactions, non addiction, and withdrawal. Therefore, the back-shu point is widely used in tumor related diseases.

Chen Jun and others randomly divided 120 cancer pain patients into a control group and an observation group, with 60 cases in each group. The patients in the account were treated with oral
hydroxycodone sustained-release tablets. On the basis of the control group, these two groups of patients were treated with moxibustion at the Back Shu point. The Back Shu points were selected from bilateral Jueyin Shu, Gan Shu, Dan Shu, Shen Shu, and San Jiao Shu, and both groups had a treatment period of 6 days. The final conclusion was that moxibustion at the Back Shu point had a significant synergistic effect on the analgesic effect of hydroxycodone hydrochloride sustained-release tablets. Preliminary confirmation indicates that this effect is related to the inflammatory response factors interleukin-6 and tumor necrosis factor-α.

3.9. Treatment of Chronic Fatigue Syndrome with Back Shu Point

Chronic fatigue syndrome is a multisystem disease that affects the immune system and central nervous system [23]. Traditional Chinese medicine believes that chronic fatigue syndrome belongs to the categories of "deficiency and fatigue" and "spleen and stomach injuries and diseases" [24]. The Back Shu Point has a good therapeutic effect in traditional Chinese medicine for the treatment of "deficiency and fatigue" and "spleen and stomach internal injuries".

Pei Xin et al. selected 60 patients with chronic fatigue syndrome and randomly divided them into a control group and a treatment group, with 30 cases in each group. There was no statistically significant difference in general information between the two groups (P>0.05). The control group was treated with tuina, chiropracton, and cupping with the back shu functional belt method, while the treatment group was treated with the Fuyang cupping warm massage, warm moxibustion, and warm back shu functional belt method. The results of this study showed that the total effective rate of the treatment group was 93.10%, and the total effective rate of the control group was 92.86%. After treatment, the serum levels of IgA, IgM, and IgG in both groups increased compared to before treatment, and the differences were statistically significant (P<0.05). It can be seen that the intervention of Fuyang cupping in the treatment of chronic fatigue syndrome patients with the Back Shu functional belt has a significant therapeutic effect, which can significantly improve the patient's immune function. Compared with traditional massage, spine pinching, and cupping therapies, Fuyang cupping is more convenient to operate [25]. Li Zhongxian et al. randomly divided 72 patients with chronic fatigue syndrome into an electroacupuncture group and a sham electroacupuncture group. The electroacupuncture group received electroacupuncture treatment, with acupoints selected from the Ganshu, Xinshu, Pishu, Feishu, and Shenshu, receiving continuous waves with a frequency of 2Hz. The fake electroacupuncture group was treated with fake electroacupuncture, with shallow needling at non acupoints (1.5 to 2.0 centimeters outward from the level of the Five Zang Back Shu point), connected to the electroacupuncture but not electrified. After treatment, the conclusion was drawn that electroacupuncture at the Wuzang Bei shu point can improve the fatigue state and quality of life of CFS patients, which may be related to increasing the excitability of the cerebral motor cortex [26].

4. Conclusion

As one of the commonly used specific acupoints in clinical practice, Bei shu point is distributed on the first measuring line of the bladder meridian in the back, and corresponds to the qi infusion of organs and the acupoints in the back and waist of the human body, corresponding to various organs; There is theoretical support from anatomy and neurophysiology. The Bei shu point treats diseases by regulating the organs related to the disease. It can be used in combination with conventional acupuncture or abdominal acupuncture, and its combination is very flexible. It has a wide range of clinical applications and can treat various diseases of the digestive system, respiratory system, nervous system, immune system, and reproductive system. The selection of treatment methods such as acupuncture, thread embedding, and massage for the acupoint of Bei shu cannot be separated from
the dialectical and holistic concepts of traditional Chinese medicine. Accurate diagnosis that conforms to the syndrome type can achieve twice the result with half the effort in disease treatment.

References