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Effectiveness of Acupuncture in Treating Oculomotor Nerve Palsy and Limb Weakness in a Weber Syndrome Patient: A Case Report

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ABSTRACT

Weber's syndrome, also known as superior alternating hemiplegia, is a rare neurological disorder caused by an infarction in the ventromedial midbrain, leading to ipsilateral oculomotor nerve palsy and contralateral hemiplegia. This case report describes a 45-year-old female patient who presented with right-sided weakness, speech impairment, and superior gaze palsy. Magnetic resonance imaging (MRI) findings suggested Weber syndrome, indicating midbrain involvement. Acupuncture, a core component of Traditional Chinese Medicine (TCM), was administered over four weeks, targeting specific acupoints associated with ocular and neurological function. Selected acupoints included Jingming (BL1), Fengchi (GB20), Baihui (DU20), Taiyang (EX-HN5), and some eye-related acupuncture points. Also include Zusanli (ST36), Shangjuxu (ST37), Xiajuxu (ST39), Yanglingquan (GB34), Yinlingquan (SP9), and so among others to improve limb utilization. The treatment aimed to enhance blood circulation, regulate Qi, and improve neural conduction.

Result: After treatment, the patient's eye movement increased, the horizontal rotation range increased from 15 to 25, and the visual field index increased from 60% to 80%. The right hemiplegia was obviously improved. The muscle strength of the right upper limb was 5/5, and that of the proximal right lower limb was 4/5. The Barthel Index rose from 45 to 90, which was greatly improved.

Conclusion: Acupuncture demonstrated potential benefits in improving motor function, ocular symptoms, and speech, supporting its use as a complementary therapy for midbrain infarctions. This report highlights acupuncture's role in neurorehabilitation and its potential integration into stroke management protocols.

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Introduction

Weber's syndrome was first described in 1863 by the German physician Hermann Weber while evaluating a 52-year-old male patient who presented with left-sided oculomotor nerve palsy and right-sided hemiplegia [1]. Also known as midbrain syndrome or superior alternating hemiplegia, this condition results from a haemorrhage affecting the left cerebral peduncle. A hallmark feature of Weber's syndrome is crossed hemiplegia, where third nerve palsy appears on the same side as the lesion [2]. In contrast, muscle weakness affects the opposite limb due to midbrain involvement. In some cases, the substantia nigra may also be impacted. Weber's syndrome arises from damage to the ventromedial region of the midbrain, which receives blood supply from several arteries, including the paramedian mesencephalic branches of the basilar artery, the peduncular perforating branches of the posterior cerebral artery, the superior cerebellar artery, and the choroidal arteries. The primary cause of this syndrome is an isolated infarction affecting the paramedian mesencephalic and peduncular perforating branches [3]. However, other potential causes include brain hemorrhages or penetrating head injury [4,5], aneurysms [6], tumors [7], acute leukemia [8], brainstem encephalitis [9], and demyelinating disorders. Individuals with Weber's syndrome commonly present with symptoms such as drooping of the eyelid (ptosis), double vision (diplopia), and partial or complete paralysis of the upper and lower limbs on the side opposite the lesion. Neurological findings typically include crossed motor or sensory deficits and oculomotor nerve palsy. The exact prevalence of isolated midbrain infarctions leading to Weber's syndrome is unclear, as these infarctions often occur alongside strokes in other regions of the vertebrobasilar system. In some cases, Weber's syndrome may also be accompanied by ataxia due to red nucleus involvement or Parkinsonian-like rigidity resulting from damage to the substantia nigra [3].

Case Report

A 45-year-old female patient presented to the Acupuncture Department of Tianjin University of Traditional Chinese Medicine with the chief complaint of left-side drooping eyelid, double vision, slight facial droopiness, and sudden-onset weakness on the right side of her body, accompanied by speech impairment. These symptoms persisted for 10 days before her visit. The symptoms had developed gradually in onset and became progressively worse over time. She also reported challenges with coordination and movement on her right side, which further advanced to slurred speech and difficulties performing daily activities like walking and eating. A detailed neurological examination revealed the presence of superior gaze palsy, characterized by an inability to move her eyes upward voluntarily. Additionally, the patient was identified by a downward deviation of the eyes with the appearance of the sclera above the cornea. This sign is often associated with dysfunction in the midbrain region.

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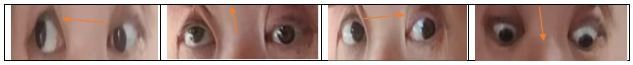

Figure 1: Difficulty in eye movement before the treatment.

On assessment, we use two methods to examine the condition of the patient: The Glasgow Coma Scale and the Barthel Index. At first the patient initially exhibited mild disorientation, scoring 11/15 on the Glasgow Coma Scale (GCS), with eye-opening at 4, verbal response at 3, and motor response at 4. She presented with right-sided weakness, demonstrating reduced motor strength of 4/5 in her right hand and 3/5 in her right leg. Her pupils were equal in size and reactive to light. There were no signs of dysphasia, aphasia, dysarthria, or any cranial nerve impairments. The remainder of her neurological examination was unremarkable.

Table 1: Neurological Examination by using GCS.

Behaviour	Response	Score
1. Eye-opening response	Spontaneously To speech To pain No response	4 3 2 1
2. Best verbal response	Oriented to time, place, and person Confused Inappropriate words Incomprehensible sounds No response	5 4 0 0 1
3. Best motor response	Obeys commands Moves to localized pain Flexion withdrawal from pain Abnormal flexion (decorticate) Abnormal extension (decerebrate) No response	6 5 4 0 0 1
Total score		11

The Barthel Index (BI) is widely used to measure basic ADL function, which is self-maintenance skills such as dressing, bathing, and grooming. The scored on a scale from 0 to 15, with higher scores indicating greater independence. The total score ranges from 0 to 100, with 100 indicating complete independence and lower scores reflecting varying degrees of dependency. In this case, the Barthel index score is 45/100 before the acupuncture treatment.

Details information about BI before-acupuncture:

FEEDING	0=unable 5=need help cutting, spreading butter, etc, or requires modified diet 10=independent	5
BATHING	0=dependent 5=independent (or in shower)	0
GROOMING	0=needs to help with personal care 5=independent face/hair/teeth/shaving (implements provided)	5
DRESSING	0=dependent 5=needs help but can do about half unaided 10=independent (including buttons, zips, laces, etc.)	5
BOWELS	0=incontinent (or needs to be given enemas) 5=occasional accident 10=continent	5
BLADDER	0=incontinent, or catheterized and unable to manage alone 5=occasional accident 10=continent	5
TOILET USE	0=dependent 5=needs some help, but can do something alone 10=independent (on and off, dressing, wiping)	5
TRANSFERS(BED TO CHAIR AND BACK)	0=unable, no sitting balance 5=major help (one or two people, physical), can sit 10= minor help (verbal or physical) 15=independent	5
MOBILITY(ON LEVEL SURFACES)	0= immobile or < 50 yards 5=Maneuvering a wheelchair unaided for more than 45m, including turns 10=Requires 1 person to help walk more than 45 meters (physical or verbal guidance) 15=Walking independently for more than 45 meters (with an assistive device)	10
Up and down the stairs	0=Needs a lot of help or is totally dependent on others 5=Requires partial assistance (physical strength, verbal guidance, aids) 10=Individual staircase access	0
TOTAL		45

She gave the past treatment history of high blood pressure and regular use of sacubatrovalsartan. However, she had no family history of hypertension, diabetes, coagulation disorders, or neurological conditions. There was no evidence of substance abuse, anticoagulant use, or any related medical concerns. Her vital signs and laboratory investigations, including a complete blood count and comprehensive biochemistry panel, fell within normal limits. The patient denied experiencing fever, trauma, neck stiffness, chest pain, palpitations, or respiratory difficulties. Additionally, she was a nonsmoker and did not consume alcohol. Upon clinical examination, her level of consciousness appeared normal. Further diagnostic evaluations revealed no significant abnormalities, including a chest X-ray, Electrocardiogram (ECG), and ultrasound. By observing its MR imaging, the lesion was located on the ventral side of the midbrain. Combined with clinical symptoms characterized by ipsilateral oculomotor nerve paralysis and contralateral hemiplegia, we classified it as this type of disease.

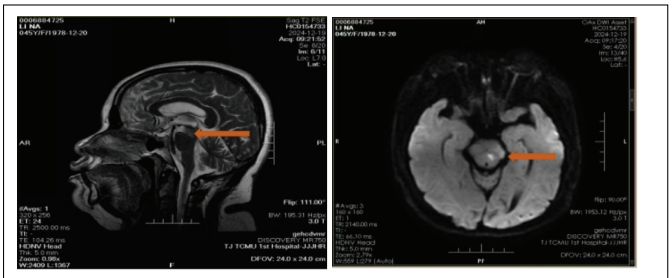

Figure 2: MRI shows lesion was located on the ventral side of the mid-brain.

Acupuncture Treatment

The patient underwent daily acupuncture treatment in an indoor ward for up to two weeks, each lasting 30 minutes. She was positioned in a prone position during the procedure, and the needles were inserted gently. Acupuncture outcomes can vary based on several factors, including the selection and number of acupuncture points, techniques used, direction and depth of insertion, strength applied by the practitioner, frequency of needle insertion, duration of needle retention, primary treatment goals, overall treatment duration, evaluation methods, disease severity, and sample size. These elements play a significant role in determining the effectiveness of acupuncture therapy [10,11]. For this reason, we provide comprehensive details regarding the precise locations of the acupoints and the needle insertion techniques used in treatment. The following acupoints were selected for therapy.

Table 2: Details information about acupoints that we use in this disease.

Name of the acupoints	Location of the acupoints	Needle insertion
1. Sibai (ST2)	When the eyes gaze straight forward, it is located directly beneath the pupil, in a depression above the infraorbital foramen.	Insert the needle perpendicularly to a depth of 0.3 to 0.5 cun.
2. Yuyao (EX-HN04)	Located on the forehead, at the central point between the eyebrows.	Insert the needle subcutaneously to a depth of 0.3-0.5 cun.
3. Cuanzhu (BL2)	Positioned near the inner edge of the eyebrow, in a depression directly above the inner canthus.	Insert the needle obliquely downwards to a depth of 0.3-0.5 cun.
4. Jingming (BL1)	BL1 is located on the face, 0.1 cun above the inner canthus, with the eye closed.	Insert the needle perpendicularly to a depth of 0.5-1 cun.
5. Qiuhou (EX-HN7)	Situated on the facial region, at the meeting point of the lateral one-fourth and medial three-fourths of the infraorbital margin.	Insert the needle perpendicularly to a depth of 0..5-1.5 cun

6. Yangbai (GB-14)	It is located on the forehead, 1 cun above the center of the eyebrow, directly in line with the pupil when the eyes look straight ahead.	Insert the needle subcutaneously to a depth of 0.5-0.8 cun.
7. Taiyang (EX-HN-5)	It is located in the temple region, in a depression, approximately one finger-width behind the midpoint between the outer edge of the eyebrow and the outer canthus.	Insert the needle obliquely to a depth of 0.3-0.5 cun.
8. Yintang (DU-29)	Positioned on the forehead, at the central point between the inner ends of both eyebrows.	Insert the needle obliquely subcutaneously to a depth of 0.3-0.5 cun.
9. Baihui (DU-20)	Located at the top of the head, 5 cun behind the midpoint of the anterior hairline, and 7 cun above the midpoint of the posterior hairline or directly above the highest point of the auricles along the midline of the head.	Insert the needle transversely to a depth of 0.5-0.8 cun.
10.Sishenchong (EX-HN l)	Located at the top of the head, the Baihui points in front of, behind, left, and right each open 1 inch, for a total of 4 points.	Insert the needle subcutaneously to a depth of 0.3-0.5 inches.
11.Neiguan(PC 6)	Situated on the palmar side of the forearm, 2 inches above the transverse carpal stripe, between the tendon of the palmaris longus and the flexor carpi radialis tendon.	Insert the needle perpendicularly to a depth of 0.5-1 cun.
12. Zusanli (ST36)	Situated under 3 cun of Dubi, One transverse finger of the anterior border of the tibia.	Insert the needle perpendicularly to a depth of 0.5-1 cun.
13. Xiajuxu (ST39)	Situated under 6 cun of Zusanli.	Insert the needle perpendicularly to a depth of 0.5-1 cun.
14. Yanglingquan (GB34)	Situated on the lateral side of the calf, when the head of the fibula is depressed anteriorly and inferiorly.	Insert the needle perpendicularly to a depth of 0.5-1 cun.
15. Yinlingquan (SP9)	Situate on the medial side of the lower leg, in the depression between the lower edge of the medial tibial condyle and the medial edge of the tibial bone.	Insert the needle perpendicularly to a depth of 0.5-1 cun.
16. Sanyinjiao (SP6)	Situate on the medial side of the lower leg, 3 inches above the tip of the inner ankle, behind the medial border of the tibia.	Insert the needle body at 45 °, 0.5-1 inches from the medial surface of the tibia.
17. Taichong (LR 3)	Located on the dorsum of the foot, in the depression, just distal to the junction of the first and second metatarsal bones.	Insert the needle, Perpendicularly to a depth of 0.5cun

*The term "cun" refers to a unit of measurement used for locating acupuncture points. One cun corresponds to the distance between the middle finger's distal and proximal interphalangeal joints.
*EX-UE denotes an extra-acupuncture point not associated with any specific meridian pathway.

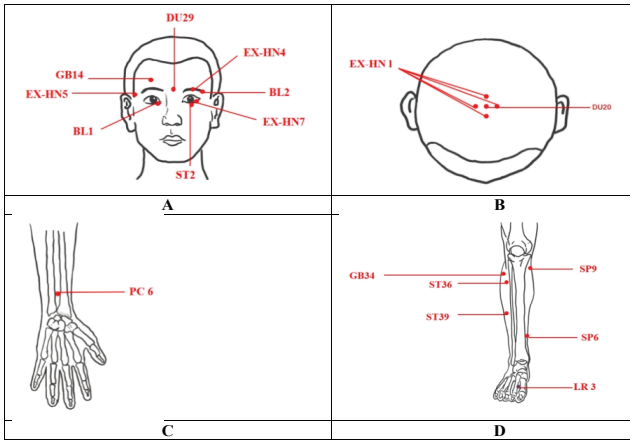

Figure 3: Location of acupoints: A = Yintang (DU29), Yuyao (EX-HN4), Cuanzhu (BL2), Qiuhou (EX-HN7), Sibai (ST2), Jingming (BL1), Taiyang (EX-HN5), Yangbai (GB-14). B: Baihui (DU20), Sishenchong (EX-HN1) C= Neiguan (PC6). D= Yanglingquan(GB34), Zusanli (ST36), Xiajuxu (ST39), Yinlingquan (SP9), Sanyinjiao (SP6), Taichong (LR3).

Follow-up Neurological Assessment at 2 Weeks Post-onset: The patient exhibited sustained neurological recovery on follow-up evaluation: the patient showed improvement of ocular dyskinesia and improvement of ocular gaze palsy symptoms. The upper gaze state was significantly better than before, and the rotation amplitude was increased. The range of synergistic movements was widened, and the range of visual fields was more expansive.

1. Oculomotor Function Improvement:

- *Ocular dyskinesia*: Improvement of ocular gaze palsy symptoms, and the upper gaze state is significantly better. *Horizontal rotation amplitude*: increased from ±15°to ±25°, accompanied by enhanced ocular movement.
- *Visual field index (VFI):* improvement from 60% to 80%.

2. Motor Function Recovery:

- Right hemiparesis significantly ameliorated. Muscle strength of right upper extremity: 5/5 and right lower extremity: Proximal 4/5.
- *Barthel Index:* This scale is can be used to evaluate patients before, during and after treatment. The patient index improved from 45 to 90.

Details information about BI after-acupuncture:

BarthelIndexActiity		Score
FEEDING	0=unable 5=need help cutting, spreading butter, etc, or requires modified diet 10=independent	10
BATHING	0=dependent 5=independent (or in shower)	5
GROOMING	0=needs to help with personal care 5=independent face/hair/teeth/shaving (implements provided)	5
DRESSING	0=dependent 5=needs help but can do about half unaided 10=independent (including buttons, zips, laces, etc.)	10
BOWELS	0=incontinent (or needs to be given enemas) 5=occasional accident 10=continent	10
BLADDER	0=incontinent, or catheterized and unable to manage alone 5=occasional accident 10=continent	10
TOILET USE	0=dependent 5=needs some help, but can do something alone 10=independent (on and off, dressing, wiping)	10
TRANSFERS (BED TO CHAIR AND BACK)	0=unable, no sitting balance 5=major help (one or two people, physical), can sit 10=minor help (verbal or physical) 15=independent	10
MOBILITY (ON LEVEL SURFACES)	0=immobile or <50 yards 5=Maneuvering a wheelchair unaided for more than 45m, including turns 10=Requires 1 person to help walk more than 45 meters (physical or verbal guidance) 15=Walking independently for more than 45 meters (with an assistive device)	15
Up and down the stairs	0=Needs a lot of help or is totally dependent on others 5=Requires partial assistance (physical strength, verbal guidance, aids) 10=Individual staircase access	5
TOTAL		90

Rachana KC, Linru Hou, Fei Cheng, Lili Zhang (2025). Effectiveness of Acupuncture in Treating Oculomotor Nerve Palsy and Limb Weakness in a Weber Syndrome Patient: A Case Report. American J Case Rep Clin Imag. 2025; September, 2(2),01-06.

Before treatment, the BI score was 45/100, indicating a moderate dependence on assistance for daily activities. However, following acupuncture treatment, the score significantly improved to 90/100, reflecting near-complete independence. This remarkable progress highlights acupuncture's potential as a complementary therapy for enhancing neuromuscular function, circulation, and brain plasticity.

Visual representation of improvement before and after acupuncture treatment

To further improve eye gaze, limb numbness, and weakness, continued acupuncture treatment, neuromuscular facilitation training, and rehabilitation are recommended. Full functional independence is expected within two months, with close monitoring of stroke recurrence risk factors.

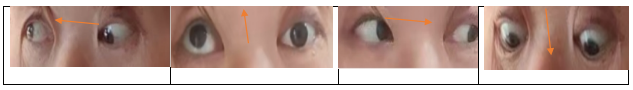

Figure 4: Functional improvement in eye movement after acupuncture

Discussion

Weber syndrome arises from an infarction in the ventromedial midbrain, leading to distinct neurological symptoms. This condition primarily presents with ipsilateral Oculomotor Nerve Palsy (ONP) and weakness on the opposite side of the body [12]. The underlying cause is the disruption of blood flow in the paramedian branches of either the basilar artery or the posterior cerebral artery, resulting in damage to the oculomotor nucleus and fibres, as well as the cerebral peduncle. Manifestations of ONP present with symptoms such as drooping of the upper eyelid (blepharoptosis), a reduced palpebral fissure, an inferolateral deviation of the eye, double vision, and a diminished or absent pupillary light reflex. Additionally, it may cause pupil dilation and restrict eye movement in the upward, inward, and downward directions. In some cases, ONP is accompanied by headaches, significantly impacting the patient's quality of life. Ocular motility disorders directly affect visual function, and the natural recovery period varies based on the severity of the injury. Mild cases may recover within a few weeks to three months, while severe cases can take over six months or leave lasting complications. Currently, the primary treatment approach for oculomotor nerve palsy focuses on enhancing neurological function using neurotrophic drugs like Vitamin B12 [13]. Other treatment options include hormone therapy, vasodilators, and surgical interventions [14]. However, these methods often have side effects and limited efficacy due to various uncertainties. Therefore, finding a safe and effective treatment is essential. Numerous recent studies have demonstrated that acupuncture is a promising and effective treatment for this condition [15,16]. Acupuncture, a fundamental aspect of Traditional Chinese Medicine (TCM) with a history exceeding 2,000 years, has been traditionally used to treat conditions such as hemiplegia since the Tang Dynasty [17]. Rooted in the yin-yang theory, acupuncture aims to restore the balance of Qi, the body's vital energy, by stimulating specific acupoints to correct imbalances contributing to illness [18,19]. Acupuncture, a traditional Chinese medicine treatment method, has been used to treat various eye diseases, including ONP. The literature shows that acupuncture has a definite therapeutic effect on ONP by increasing the total effective rate, eye fissure, and increased eye movement, reducing the angle of strabismus and diplopia, and improving neurological function [20].

Also, many studies have shown that acupuncture can promote nerve repair through the following pathways:

1. Improvement of local microcirculation: Stimulation of periocular acupoints (eg Jingming, Cuanzhu, Taiyang, Sibai) may increase blood perfusion and reduce edema and ischemia/hypoxia.

2. Neuromodulation: distal acupoints (eg. Sanyinjiao, Taichong, Yinlingquan, Yanglingquan, Zusanli) activate neuroplasticity through the brainstem reticular formation and promote the compensation of the function of the nucleus accumbens.

When treating Weber syndrome, acupuncture typically targets specific eye acupoints, including Jingming (BL1), Cuanzhu (BL2), Sibai (ST2), Yuyao (EX-HN4), Yintang (EX-HN3), Qiuhou (EX-HN7), Yangbai (GB14), Taiyang (EX-HN5), Baihui (DU20), Taichong (LR3). These acupoints are located in highly vascularized areas, which enhance blood circulation, reduce visual fatigue, prevent ciliary muscle spasms, and improve lens function [21]. Stimulating these points can optimize ocular function by regulating the refractive system, boosting retinal activity, and activating the visual cortex through afferent nerves and the brainstem, aiding in correcting refractive errors by adjusting the cornea, lens, and vitreous body [22]. Likewise, EX-HN5, a local acupoints near the eyes, promotes Qi and blood movement, increases ocular circulation, and strengthens neural conduction [23]. In TCM, the brain is regarded as the "sea of marrow." Acupoints such as DU20 are essential for uplifting clear Yang, nourishing marrow, and enhancing cognitive function. DU20, positioned at the vertex where multiple meridians intersect, harmonizes the Yin and Yang meridians [24]. Recent studies have demonstrated acupuncture's effectiveness in improving cerebral and ocular function. Further investigations by Yong-sing Park *et al.,* (2014) and Ida Nurwati *et al.,* (2023) highlighted how acupoints such as Sibai (ST2) and Baihui (DU20) contribute to vision improvement by balancing pro-inflammatory mediators (such as IL, bradykinin, and prostaglandins) and inhibitory neurotransmitters (including acetylcholine, GABA, norepinephrine, β-endorphin, nitric oxide, and somatostatin) within the neural acupuncture unit (NAU) [25,26]. From a TCM perspective, acupoints like Taiyang (EX-HN5) are commonly used to manage eye conditions by enhancing visual clarity, alleviating eye strain, and promoting Qi and blood flow [27,28]. Studies by Bittner *et al.* (2014) and Blechschmidt *et al.* (2017) further demonstrated that stimulating Taiyang improves visual functions, such as visual acuity and contrast sensitivity [29,30]. Acupoints like Qiuhou (EX-HN7) and Yuyao (EX-HN4), located near the eyes and containing numerous arterial branches in deeper layers, play a crucial role in ocular health. The primary blood supply to the ocular region originates from the ocular arteries, and needling these acupoints can enhance local vasodilation, improve circulation, and accelerate metabolic processes [31]. Jingming (BL1), a historically significant acupoints, has been widely used to treat various eye disorders [32]. It is closely linked to the deeper layers of ophthalmic nerves [33] and is often combined with other acupoints to regulate the meridian Qi flow in the eyes [34]. Taiyang (EX-HN5), near the trigeminal and oculomotor nerve branches, is frequently selected for treating ocular conditions [35,36]. At the same time, Cuanzhu (BL2) effectively manages both eye diseases and forehead pain, further contributing to overall eye health [37]. Among the commonly used acupoints, Neiguan (PC6) is located on the syncopal pericardium meridian of the hand. It has been reported to play an important role in regulating the circulation of qi and blood in the upper limbs. A study has shown that acupuncture on Neiguan can promote the release of neurotransmitters and enhance blood perfusion to the corresponding muscles and nerves, thus effectively relieving the symptoms of numbness and weakness in the upper limbs [38]. Yanglingquan (GB34), a Hopai point of the foot-shaoyang gallbladder meridian, is known for regulating the tendons and veins. The Yellow Emperor's Classic of Internal Medicine emphasizes "treating the gallbladder when the tendons are sick." Liver and gallbladder disorders can cause the tendons and veins to lose nourishment, leading to unfavorable flexion and extension of the joints or muscular rigidity. Needling Yanglingquan stimulate the meridian qi and promote the moistening of the tendons and veins with qi and blood. Modern research has also revealed the underlying mechanism by which needling Yanglingquan enhances muscle contraction. It does this by promoting the release of neurotransmitters such as acetylcholine at the neuromuscular junction. Increased release of neurotransmitters such as acetylcholine improves the efficiency of muscle contraction, which in turn enhances the strength of the muscles around the knee joint and other lower limb muscles. In addition, stimulating Yanglingquan modulate the activity of the central nervous system. It has the potential to enhance the nerve signals transmitted to the muscles of the limbs and improve the coordination of limb movements. This is especially important for patients with limb movement disorders, as better neural control correct abnormal movement patterns and enhance overall mobility. Another aspect relates to anti-inflammatory effects. For limb movement disorders usually associated with joint or soft tissue inflammation, Yanglingquan acupuncture has been shown to reduce levels of pro-inflammatory cytokines which reduce pain-swelling and improving the range of motion of the affected limbs [39]. Another acupoint Zusanli (ST36) is the conjunction point of the Foot Yangming Stomach Meridian, and Shangjuxu (ST37)- Xiajuxu (ST39) are the lower conjunction points of the Large Intestine and Small Intestine, respectively. Combining these three points synergize gastrointestinal function and limb movement regulation. Modern research reveals multi-targeted effects of Zusanli, while stimulating this point it activates the vagus nerve-adrenal axis, inhibit the release of systemic inflammatory factors (e.g., TNF-α, IL-1β), and attenuate neuromuscular inflammatory injuries [40]. A meta-analysis comparing acupuncture with other treatment methods found that acupuncture demonstrated superior clinical efficacy, improving diplopia scores, eyelid measurements, and pupil diameter more effectively than conventional therapies. Additionally, acupuncture showed advantages in accelerating the recovery process [41].

Conclusions

Weber syndrome can benefit from an integrative approach combining modern and traditional Chinese medicine (TCM). Acupuncture, a cornerstone of TCM, has shown promise in enhancing cerebral circulation, neural and motor function, and ocular health by improving blood flow, reducing inflammation, and balancing mediators within the neural acupuncture unit (NAU). This interdisciplinary approach provides a comprehensive path to recovery and highlights the potential of innovative, integrative treatments for neurological disorders.

Ethics Statement:

This case report was approved by the Ethics Committee of the First Teaching Hospital of Tianjin University of Traditional Chinese Medicine, Tianjin, China.

Informed Consent Statement:

Written informed consent has been obtained from the patient to publish this case report and accompanying images. The consent form explicitly authorizes the use of anonymized medical data and clinical photographs for scientific publication and educational purposes. Documentation is retained by magazine and available for editorial review.

Data and Code Availability

Patient image information are not public/cannot be freely downloaded as they contain information that may violate the privacy of study participants. All the other data supporting the results of this study can be found in the paper and its appendix.

References

1. Silverman I.E., Liu G.T., Volpe N.J., Galetta S.L. The crossed paralyses: the original brain-stem syndromes of Millard-Gubler, Foville, Weber, and Raymond-Cestan. Arch. Neurol. 1995 Jun 1;52(6):635-638. Doi: 10:1001/archneur.1995.00540300117021.
2. Hatgaonkar A, Hatgoankar K, Jobanputra M, Desale P. Clinico-radiological correlation of Weber's syndrome. Cureus. 2024; 16(1): e51624. Doi:10.7759/cureus.51624.
3. Ruchalski K, Hathout GM. A medley of midbrain maladies: a brief review of midbrain anatomy and syndromology for radiologists. Radiol Res Pract. 2012; 2012:258524. 2012Oct.
4. De la Garma E, *et al.* Weber syndrome due to penetrating wound in midbrain. Arch Neurosci (Mexico). 2014; 19(1):53-56. Doi:10.31157/an. v19i1.31.
5. Stephen AM, Sebastian S, Baranitheran, Harigaravelu PJ. Post-traumatic Weber's syndrome: a rare presentation. Indian J Surg. 2021;83(S1):213-215. Doi:10.1007/s2262-020-02529-9.
6. Sitthinamsuwan B, Nunta-aree S, Sitthinamsuwan P, Suwananwiboon B, Chiewvit P. Two patients with rare causes of Weber's syndrome. J Clin Neurosci. 2011;18(4):578-579. Doi: 10.1016/j.jocn.2010.07.135.
7. Sheikh Hassan M, Osman Sidow N, Adam BA, Adani AA. Superior alternating hemiplegia (Weber's syndrome)-case report. Ann Med Surg (Lond). 2022; 77:103674.
8. Muthu V, Kumar S, Prakash G, Sharma P, Varma S. Image diagnosis: Weber syndrome: a rare presentation of acute leukemia-a case report and review of the literature. Perm J. 2015;19(1):83-85. Doi:10.7812/TPP/14-126.
9. Ballaekere JS, Chebbi PP,Sundarmurthy H, Parameshwarappa A. Weber syndrome: Herpes simplex virus brainstem encephalitis as an etiology. Am J Med. 2014;127(12): e5-e6. Doi: 10.1016/j.amjmed.2014.08.005.
10. Shi Xue Min. Correlation study Between Acupuncture Techniques and Clinical Effects Relationship Between Needling Direction, Depth, Manipulation, and Corresponding Symptoms at the Same Acupoint [J]. Journal of Traditional Chinese Medicine, 2012, 27(9):1077-1079.
11. Chen Weili, Li Xueqing. Discussion on Factors Affecting Constitution Formation from the Perspective of Classical Acupuncture Theory [J]. Journal of Traditional Chinese Medicine, 2014, 29(2): 219-220.
12. Kim J. S. and Kim J., Pure midbrain infarction: clinical, radiologic, and pathophysiologic findings, Neurology. (2005) 64, no. 7, 1227-1232, 2-s2.0-16844384448.
13. Y.K. Dai, L. Zhang. Effect of methyl vitamin B12 on oculomotor nerve palsy. Shanghai Med J, 34(3) (2011), pp. 230-232.
14. S. Basiakos, M. Gräf, M.N. Preising, B. Lorenz. Splitting of the lateral rectus muscle with medial transposition to treat oculomotor palsy: a retrospective analysis of 29 consecutive cases. Graefes Arch Clin Exp Ophthalmol, 257 (9) (2019), pp. 2005-2014.
15. Q.X. Chen, W. Zou, D. Ju, L.W. Zhu, X.W. Sun Acupuncture treatment for oculomotor paresis: clinical observation of 20 cases J Clin Acupunct Moxibustion, 30 (10) (2014), pp. 31-33.
16. Yong Ho Ku, Jae Hui Kang, Hwa Jin Kong, Hwa Yeon Ryu, Hyun J. Lee A systematic review of acupuncture for oculomotor nerve palsy J Acupunct Res, 36 (2) (2019), pp. 59-71.
17. Zhao JG, Cao CH, Liu CZ, *et al.* Effect of acupuncture treatment on spastic states of stroke patients. J Neurol Sci. 20009;276(1-2): 143-147. Doi: 10.1016/j.jns.2008.09.018.
18. Rabinstein AA, Shulman LM. Acupuncture in clinical neurology. Neurologist. 2003;9(3): 137-148. Doi:10.1097/00127893-200305000-00002.
19. Ju Sheng, Wang Liuqi. Self-made "Plum Blossom Myopia Needle" for percussing "Four points" Around the Eye to Treat Adolescent Myopia [J]. Journal of Changchun University of Traditional Chinese Medicine, 2014, 30(4): 715-717.
20. Y.L. Wang, J.D. Zhang, Q. Fan.Recent advances in acupuncture treatment of oculomotor palsy Contemp Med, 26 (24) (2020), pp. 192-194.
21. Tao Xiaoyan, Zhang Caichun, Yang Jinliang, *et al.* Clinical Observation of Filiform Needle Treatment for Adolescent Myopia [J]. Journal of Beijing University of Traditional Chinese Medicine, 2006, 13(6): 39-41.
22. Wang L. Clinical research on comprehensive rehabilitation therapy in patients with primary brain stem injury and oculomotor paralysis. J Clin Med Lit 2018;5(50):65-6.
23. Wu JL, Yin HN, Wang DL, Zhu ZW, Sun ZR. Origin and development situation of scalp acupuncture therapy. J Guangzhou Univ Tradit Chin Med 2019;36(11):1783-7.
24. Zhu LP, Wang WW. Analysis of etiology and clinical features of peripheral oculomotor paralysis. Chin J Pract Nerv Dis 2020;20(08);746-51.
25. Park YS, Kim CM, Lee EH, Park YS, Kim CM, Lee EH. Acupuncture Therapy for Color Vision Defects. Journal of Korean Medicine. 2014 Jun 30;35(2):41-6.
26. Nurwati I, Handayani S, Muhammad F. Acupuncture improves diplopia and ptosis after subdural hematoma surgery: A case report. Int J Surg Case Rep. 2023 Apr; 105: 108108.doi: 10.10116/j.ijscr.2023.108108. Epub 2023 Apr 3. PMID: 37-18951; PMCID: PMC10112154.
27. Lam D. S., Zhao J., Chen L. J., Wang Y., Zheng C., Lin Q., *et al.* (2011). Adjunctive effect of acupuncture to refractive correction on anisometropic amblyopia: one-year results of a randomized crossover trial. Ophthalmology 118, 1501-1511. Doi: 10.1016/j.ophtha.2011.01.017, PMID:
28. Yang X., Xu L., Zhong F., Zhu Y. (2012). Data mining-based detection of acupuncture treatment on juvenile myopia. J. Tradit. Chin. Med. 32, 372-376. Doi:10.1016/S0254-6272(13)60040-0, PMID:
29. Bittner A. K., Gould J. M., Rosenfarb A., Rozanski C., Dagnelie G. (2014). A pilot study of an acupuncture protocol to improve visual function in retinitis pigmentosa patients. Clin. Exp. Optom. 97, 240-247. Doi:10.1111/cxo.12117, PMIN.
30. Blechschmidt T. T., Krumsiek M., Tododrova M. G. (2017). The effect of acupuncture on visual function in patients with congenital and acquired nystagmus. Medicines (Basel) 4, 1-11. Doi:10.3390/medicines4020033, PMID.
31. Yin LX, Duan L. Clinical observation of acupuncture at local points for optic atrophy. Baotou Yixueyuan Xuebao, 2012, 28(6): 93.
32. Chen C, Cui HF, Yan XK, Wang FC. Clinical study progress of acupuncture-moxibustion for amblyopia. Shanghai Zhenjiu Zazhi, 2011, 30(1): 64-67
33. Xu XD, Jin LZ, Lou XF, Sun SH, Jiang SH. Anatomical study on Jingming (BL 1). Zhongguo Zhen Jiu, 2006, 26(6): 415-416.

34. Wang SJ. Experience on application of Jingming (BL 1). Shanghai Zhenjiu Zazhi, 2009, 28(70): 426-427.

35. Zhang CH, Ma XP, Wu DW, Liu ZW. Rules of acupoints for treating eyes disorder in acupuncture verses. Shanghai Zhenjiu Zazhi, 2011, 30(3): 195-197.

36. Zhang CH, Zhang LL, Ma XP, Yang L, Hong J, Liu J, Wu LX. Research on acupuncture-moxibustion for dry eye syndrome. J Acupunct Tuina Sci, 2013, 11(2): 72-78.

37. Zhao JH, Lam DS, Chen LJ, Wang Y, Zheng C, Lin Q, Rao SK, Fan DS, Zhang M, Leung PC, Ritch R. Randomized controlled trial of patching vs. acupuncture for anisometropic amblyopia in children aged 7 to 12 years. Arch Ophthalmol, 2010, 128(12): 1510-1517.

38. Li C, Wang Y, Li B, Su S. Effects of Acupuncture at Neiguan in Neural Activity of Related Brain Regions: A Resting-State fMRI study in Anxiety. Neuropsychiatr Dis Treat. 2022 Jul 6; 18:1375-1384.

39. Ji Q, Shan F, Zhang B, Chen Y, Yang X, Gao F, Li X. Acupuncture on "Huantiao" (GB30) and "Yanglingquan" (GB34) acupoints promotes nerve regeneration in mice model of peripheral nerve injury. IBRO Neurosci Rep. 2023 Aug 19; 15:158-164.

40. Liu S, Wang Z, Su Y, Qi L, Yang W, Fu M, Jing X, Wang Y, Ma Q. A neuroanatomical basis for electroacupuncture to drive the vagal-adrenal axis. Nature. 2021 Oct;598(7882):641-645. doi: 10.1038/s41586-021-04001-4. Epub 2021 Oct 13. Erratum in: Nature. 2022 Jan;601(7893): E9.

41. Xiaohui Zhang, Hai Cui, Yijiang Liu, Lu Zhang, Ruosang Du, Hongwen Yuan, Rehmatullah Achakzai, Shumei Zheng, Acupuncture for oculomotor nerve palsy: A systematic review and meta-analysis, Complementary Therapies in Medicine, Volume 71,2022,102888, ISSN 0965-2299.

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