

Advances in Traditional Chinese Medicine for Cervical Myofascial Pain Syndrome

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Abstract

Cervical Myofascial Pain Syndrome is a common chronic musculoskeletal disorder in clinical practice, with a steadily increasing incidence rate. Traditional Chinese Medicine (TCM) has demonstrated unique advantages in the prevention and treatment of this condition, forming a multidimensional and multifaceted comprehensive treatment system that includes herbal medicine, acupuncture, moxibustion, tuina, and cupping therapy. This article systematically reviews the research progress in this field, noting that internal herbal treatments focus on syndrome differentiation and treatment, guided by the principle of "harmonizing internal organs and clearing meridians." Various external therapies, particularly specialized needling techniques and instruments targeting myofascial trigger points, can effectively release adhesions, improve blood circulation, and provide anti-inflammatory and analgesic effects. The current status of TCM in treating this condition is analyzed, aiming to offer references and insights for its clinical management.

Keywords: cervical myofascial pain syndrome, traditional chinese medicine, advances in research, literature review

1. Introduction

Cervical Myofascial Pain Syndrome (CMPS), also known as cervical and shoulder myofascitis, is a chronic musculoskeletal disorder characterized by localized pain and tenderness in the cervical and shoulder muscles and fascia. Its core pathological feature involves myofascial trigger points (MTrPs)—hypersensitive nodules within muscle tissue that can spontaneously or upon stimulation induce localized pain and referred pain, leading to joint movement limitation, muscle weakness, and autonomic nervous symptoms^[1]. Clinically, patients commonly present with stiffness, soreness, and a heavy sensation in the cervical-shoulder region. The pain may radiate to the upper limbs, and tender points or cord-like nodules are frequently palpable in muscles such as the trapezius, supraspinatus, and levator scapulae. The etiology of CMPS is closely associated with aseptic inflammation of soft tissues caused by chronic strain, prolonged poor posture, repeated cold exposure, and other factors. In recent years, with lifestyle changes, its incidence has risen significantly, severely impacting patients' quality of life. Traditional Chinese Medicine (TCM) demonstrates diverse and effective therapeutic approaches in treating CMPS. This article aims to provide a concise review and summary of recent research progress in the field of CMPS.

2. Etiology and Pathogenesis in Traditional Chinese Medicine

TCM does not have a specific recorded name for this disease, but based on clinical manifestations, it can be categorized under "Bi Syndrome" or "Tendon Bi Syndrome." The etiology and pathogenesis are complex, with external causes primarily including the invasion of wind-cold-damp pathogens, wind-damp-heat pathogens, and the combined invasion of wind-cold-summerheat-dampness. The *Nei Jing* (Internal Classic) states that the mixture of wind, cold, and dampness leads to Bi Syndrome, manifesting as "Wandering Bi" (moving pain), "Painful Bi" (severe pain), and "Fixed Bi" (localized pain), while prolonged cold-dampness or internal heat combined with external pathogens can transform into wind-damp-heat Bi Syndrome. Hua Tuo emphasized in the *Zhong Zang Jing* (Central Visceral Classic) that summer-heat pathogens are also a key predisposing factor. Internal causes involve deficiency of healthy qi, emotional trauma, improper diet and overexertion, and internal obstruction by phlegm and blood stasis. Insufficient healthy qi results in a porous body surface (*couli bu mi*), increasing susceptibility to external pathogens. Emotional imbalance disrupts qi flow and causes disease, while improper diet and inadequate rest damage healthy qi, making the body prone to external pathogens. Phlegm and blood stasis, as pathological products, not only cause Bi Syndrome but also prolong and complicate the condition.

3. Herbal Medicine Therapy

For CMPS characterized by a deficiency pattern in essence manifesting as excess, namely deficiency of qi-blood, malnourished tendons-vessels compounded by wind-cold-damp pathogens or qi-blood stagnation, TCM employs the therapeutic principle of "dredging (Tong) for application, nourishing (Yang) as foundation." Gong Shengmin et al^[2], used modified Duhuo Jisheng Tang (Pubescent Angelica Decoction for Parasites) for CMPS, featuring Sang Ji Sheng, Du Zhong, Shu Di as principal herbs to tonify liver-kidney and strengthen tendons-bones, complemented by Dang Gui and Bai Shao to nourish blood-soften tendons. Shi Huifang^[3] et al. applied modified Guizhi Jia Gegen Tang (Cinnamon Twig Decoction plus Pueraria), incorporating Chuan Xiong and Ji Xue Teng to invigorate blood-unblock meridians, achieving 96.67% efficacy and significant pain relief. Cai Yanni's team^[4] utilized Chaihu Guizhi Tang (Bupleurum-Cinnamon Twig Decoction) based on six-meridian differentiation, harmonizing Shaoyang-Taiyang meridian qi with 91.43% efficacy, demonstrating classical formula advantages. Li Kegang^[5] et al. Selected Huangqi Guizhi Wuwu Tang (Astragalus-Cinnamon Twig Five-Ingredient Decoction) to replenish qi-warm meridians, using Huang Qi as primary herb combined with Ge Gen and Ji Xue Teng for 91.11% efficacy. Yang Guangyu et al^[6]. Confirmed Gegen Tang (Pueraria Decoction) efficacy in cervical-shoulder-back myofascial pain, achieving 93.33% efficacy with Tuina massage. Core therapeutic strategies include Gui Zhi warming meridians-expelling cold, Bai Shao nourishing blood-softening tendons, Ge Gen relieving muscle spasms, and Gan Cao harmonizing-replenishing qi, collectively embodying warming-unblocking meridians, nourishing blood-softening tendons, and harmonizing Ying-Wei qi.

4. Acupuncture Therapy

Acupuncture therapy, as the preferred treatment for Bi syndrome, is widely applied in clinical practice due to its safety, eco-friendliness, convenience, and significant analgesic efficacy. Western dry needling therapy alleviates pain by inserting needles into MTrPs, with its operational technique highly consistent with traditional Chinese acupuncture's needling of Ashi points.

4.1 Acupuncture for MTrPs

MTrPs serve as the key pathological sites in CMPS. Acupuncture achieves analgesia by transitioning MTrPs from an active to inactive state, thereby optimizing the local microenvironment and facilitating metabolic waste clearance. In clinical practice^[7], MTrPs acupuncture therapy demonstrates significant efficacy in rapidly inactivating MTrPs through intense stimulation intensity and localized acupoint selection strategies, earning widespread clinical endorsement.

4.1.1 Special Needling Techniques for MTrPs

Traditional acupuncture techniques including Hegu Needling, Cui Needling, Three-Edged Needle Pricking, and Hui Needling from Ling Shu-Guan Zhen (Spiritual Pivot Official Needles) demonstrate significant efficacy in treating Cervicothoracic CMPS, with modern clinical validation confirming their advantages. Hegu Needling employs deep straight insertion followed by shallow oblique needling bilaterally, forming a chicken-foot pattern with strong stimulation, targeting muscle bi syndrome—Wang Xuling^[8] reported 96.67% efficacy for shoulder-back myofascial pain, outperforming conventional acupuncture. Cui Needling (filiform fire needling) applied to MTrPs based on pivotal mechanism theory by Chen Xuanling^[9] et al. yields remarkable results. The parallel needling technique, evolved from Qi Needling and Bang Needling, uses multi-needle arrays to stimulate tendon nodules/tender points, enhancing meridian qi flow—a study on 60 patients confirmed^[10] superior efficacy over conventional acupuncture. Hui Needling emphasizes "straight needling adjacent to the lesion with forward-backward lifting," and Li Yang^[11] et al. demonstrated its combination with warm needling outperforms monotherapy in pain relief and cervical function improvement. Qi Needling directs qi to deep-seated cold bi syndrome lesions to release adhesions and improve circulation, with Leng Dexin^[12] achieving 94.12% efficacy for CMPS using Qi Needling with iontophoresis. Yu Qing^[13] et al. employed the Vibrating Needle Assistance Technique, effectively improving symptoms and objective markers including infrared thermography and serum inflammatory factors.

4.1.2 Special needles for MTrPs

Small needle-scalpel therapy integrates acupuncture with soft tissue release techniques to alleviate muscle contractures, release scars, and improve blood circulation, with Zhang Chuanli^[14] et al. reporting a 97.5% efficacy rate for chronic myofascial pain that surpasses conventional acupuncture; the blade needle derived from ancient round and sword-like needles achieved 90.9% efficacy in Wang Jinwei's study^[15] with significant VAS and McGill Pain Questionnaire improvements, while Deng Wenfei's^[16] Yuan needle combination showed superior outcomes in Young's modulus evaluations. Qihuang needle therapy demonstrated 92.5% efficacy in Wu Jiahui's research^[17],

exceeding the 65% efficacy of conventional acupuncture, and press needle (intra-dermal needle) enabled prolonged needle retention for meridian unblocking and pain relief, with Yue Yanrong^[18] et al. achieving 71.8% cure/marked improvement rate via neuro-endocrine-immune network regulation when combined with extracorporeal shock wave therapy. Sword-like needle rapidly cuts through tender points for immediate efficacy in scapular myofascial pain syndrome as confirmed by Zhao Yong^[19], while magnetic round-plum-blossom needle integrates Yuan needle, plum-blossom needle, and magnetic therapy to create electromagnetic microfields that accelerate blood circulation, with Li Ping's treatment^[20] of 86 CMPS cases showing superior efficacy to conventional acupuncture in reducing pain, tenderness, and functional impairment.

4.2 Theory-Guided Acupuncture

In addition to managing local MTrPs, numerous researchers employ TCM theories to guide diagnosis and treatment through disease differentiation-syndrome identification. Qin Bing^[21] synthesized Prof. Zhang Wendong's experience by harmonizing liver-spleen-kidney meridians while balancing local channel unblocking and visceral equilibrium. Yuan Shiwei^[22] et al. applied "Drawing Yang from Yin" needling integrated with force line imbalance theory to restore muscle group biomechanical balance. Cai Bingda^[23] combined Jin Rui's Jin's Three-Needle Therapy with rehabilitation myofascial release techniques, achieving favorable efficacy. Feng Chunyan's team^[24] used wrist-ankle acupuncture based on Twelve Cutaneous Regions theory for CMPS, reporting 97.37% efficacy with simple acupoint selection, mild stimulation, and high patient compliance.

5. Moxibustion Therapy

Moxibustion therapy employs local thermotherapy to dilate superficial vessels, enhance blood flow/oxygen supply, and accelerate metabolic waste/inflammatory mediator clearance. Its thermal effects reduce muscle tension, alleviate spasm pain, and inhibit inflammation via local immune modulation^[25]. In clinical applications, Wei Jiayan^[26] et al. utilized modern engineering-based heat-sensitive moxibustion devices for CMPS, demonstrating superior cervical mobility/symptom improvement over traditional moxa stick methods with enhanced operational convenience. Cao Lei et al^[27]. confirmed mild moxibustion at MTrPs significantly improves symptoms/function and achieves NSAID-equivalent anti-inflammatory effects through COX-2/PGE2 downregulation. Lei Huo moxibustion combines medicinal-thermal effects via meridian systems for widespread pain management. Li Guanqing's study^[28] showed Lei Huo moxibustion at MTrPs outperformed conventional acupuncture in overall efficacy, VAS, and NPQ scores.

6. Tuina Therapy

Tuina therapy, as a physical treatment modality, exhibits therapeutic effects including meridian dredging, blood-qi activation, tendon regulation, and pain relief. Based on fascial theory, it mechanically stretches to release fascial adhesions^[29], balance muscle tension, enhance local circulation/metabolism, and promote inflammatory factor absorption, thereby alleviating myofascitis pain/stiffness and restoring fascial elasticity/function. Xiao Yibin^[30] reported 91% efficacy for tuina in CMPS treatment, significantly outperforming electroacupuncture with superior symptom improvement. Wang Da'an et al^[31]. achieved 95.5% efficacy in sports injury patients through tuina-functional exercise synergy. Yao Linling et al^[32]. applied MTrPs tuina under Five-Body Syndrome Differentiation for elderly CMPS, demonstrating superior pain score/cervical dysfunction index reduction compared to pharmacotherapy, confirming its pivotal role in pain relief/function restoration. Li Changlong et al^[33]. employed Diannan Su's Tendon-Separating Point-Pressing Pestle Technique, showing higher efficacy and objective advantages over controls in pain relief, cervical function improvement, and pain threshold elevation.

7. Cupping Therapy

Cupping therapy, with its long history and broad application, is highly recognized for its simplicity and rapid efficacy. Clinical evolution has led to diverse cupping modalities including retained, flash, moving, and medicinal cupping. Through negative pressure suction, it enhances local circulation, increases blood flow/oxygen supply^[34], and promotes metabolic waste clearance. Simultaneously, it modulates local neuroimmune responses to alleviate pain/inflammation, release fascial adhesions, and restore tissue elasticity/function. Zhao Riget et al^[35]. achieved 98.4% efficacy in neck-shoulder-back pain treatment via bloodletting cupping. The balanced cupping technique, integrating Yin-Yang-Zang-Fu theory, adjusts organ balance and warms meridians for collateral unblocking. Chen Ying et al^[36]. demonstrated significant efficacy of this method for CMPS.

8. Other Therapeutic Approaches

The aforementioned therapies constitute primary treatment modalities for this condition, supplemented by unique approaches with limited reports^[37]. Ren Shouping^[38] achieved significant efficacy by combining TCM herbal fumigation with Neurotrophin injections at MTrPs. Han Li et al. applied Gua Sha (scraping) and balanced fire

cupping based on meridian theory, yielding favorable clinical outcomes. Zou Jun's team^[39] demonstrated that TCM herbal acupoint application outperformed conventional Western medicine in reducing swelling, tenderness, and functional impairment through acupoint sensitization theory. Liu Biyuan et al^[40] employed micro-catgut embedding needle therapy, effectively alleviating pain, tenderness, and functional limitations. Researchers also explored synergistic effects through combined modalities, contributing to "1+1>2" therapeutic outcomes.

9. Conclusion

Cervicospinal myofasciitis, a common chronic strain disorder, exhibits a continuously rising incidence paralleling modern lifestyle changes. TCM demonstrates unique advantages in its prevention and treatment through holistic regulation and multi-target intervention, offering a diverse therapeutic system encompassing Chinese herbal medicine, acupuncture, moxibustion, tuina, and cupping. However, current TCM practice faces challenges including non-uniform diagnostic criteria, subjective efficacy assessment, and incomplete operational standardization. Future efforts should further elucidate the theoretical foundations and mechanisms of action of TCM, promote the standardization of diagnostic and therapeutic protocols, strengthen evidence of therapeutic efficacy through high-quality clinical research, and establish a comprehensive outcome evaluation system. Simultaneously, enhanced practical promotion of the "preventing a disease before it arises" concept is crucial to leverage TCM's unique value in guiding health behaviors and disease prevention, thereby ultimately improving the clinical management level for CMPS.

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