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Clinical Report

Fifty two cases of entrapment syndrome of superficial radial nerve treated with short thrust needling at Shànglián (上廉LI 9)[☆]

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ABSTRACT

Objective: To observe the clinical therapeutic effects on entrapment syndrome of superficial radial nerve treated with the short thrust needling at Shànglián (上廉LI 9).**Methods:** A total of 52 patients of entrapment syndrome of superficial radial nerve were treated with the short thrust needling at LI 9. Firstly, the needle was inserted gradually and deeply until the needle tip touched the radial periosteum. Secondly, the needle body was tilted to form an angle about 30° with the skin surface. Thirdly, the needle handle was lifted and trusted shortly and swiftly to induce the gentle rubbing of the needle tip on the periosteum. The stimulation intensity of this needling technique was determined by the obvious soreness and distention in the local area or the needling sensation radiated to the radial sides of the thumb, the index figure and the middle figure of the affected limb. Afterward, the needle was retained for 20 min. The treatment was given once a day, five treatments made one course and a total of 2 courses of treatment were required.**Results:** Of 52 cases, 50 cases were cured, accounting for 96.2% and 2 cases remarkably effective, accounting for 3.8%. The mean conduction velocity of the superficial radial nerve was (49.38 ± 2.97) m/s after treatment, faster than (29.31 ± 5.94) m/s before treatment, indicating the significant difference ($P < 0.05$).**Conclusion:** The short thrust needling at LI 9 achieves the satisfactory clinical therapeutic effects on entrapment syndrome of superficial radial nerve. This therapeutic method is feasible to be promoted in clinical practice because of its less point selection and short treatment course.

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Introduction

Entrapment syndrome of superficial radial nerve, also known as Wartenberg's syndrome is chiefly manifested as the weak gripping strength of the affected hand as well as numbness and pain on the radial side of the hand dorsum. This disease is also named as hand neuralgic paralysis and hand-cuff disease. The aseptic inflammation of the superficial radial nerve is induced by the repeated wrist flexion, clenching fist and forearm pronation, hence the disease occurs [1]. In recent years, the morbidity of the disease is obviously increased in which the females are more than the males and the age is younger in tendency. The clinical symptoms of it are difficultly identified from tennis elbow, radial styloid tenosynovitis, lateral forearm cutaneous neuritis and cervical spondylosis of nerve root type. This disease brings the big influences on the life and work of patients. The author adopted the short thrust needling at Shànglián (上廉LI 9) in the treatment. The report is as follows.

Clinical data

All of 52 outpatients were from the Rehabilitation Department of Hebi Jingli Hospital, Henan Province from May 2010 to October 2015. Of them, there were 21 males and 31 females, aged from 21 to 64 years, at the average of (45 ± 12) years. The duration of sickness was ranged from 3 days to 4 years, at the average of (1.4 ± 1.1) months. All of the cases were in compliance with the diagnosis criteria in *Peripheral neurology in acupotomy* [1], including

(a) Forearm and wrist trauma and strain; (b) Paresthesia on the hand dorsum and the radial side of forearm, hand weakness, pain induced by clenching the fist and forearm pronation, or radiated to the upper arm and the shoulder; (c) Tinel's sign positive; (d) Electrophysiological test: never conduction velocity (NCV) < 40 m/s, X-ray test: excluding forearm fracture, bone tuberculosis and tumor.

Methods

Acupoint selection

Shànglián (上廉LI 9) on the affected side was selected [2].

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Fig. 1. Entrapment syndrome of superficial radial nerve treated with short thrust needling at Shànglián (上廉LI 9).

Manipulation

The patient was in sitting position with the affected arm put naturally on the treating table, the cushion was put under the forearm and the elbow flexed slightly. After strict sterilization on the selected acupoint, according to the muscle thickness in the local area, the single-used filiform needle, 0.30 mm × 25 mm or 0.30 mm × 40 mm was used. The short thrust needling technique was adopted to stimulate LI 9. Firstly, the needle was inserted gradually and deeply until the needle tip touched the radial periosteum. Secondly, the needle body was tilted to form an angle about 30° with the skin surface. Thirdly, the needle handle was lifted and thrust short and swiftly to induce the gentle rubbing of the needle tip on the periosteum. The stimulation intensity of this needling technique was determined by the obvious soreness and distention in the local area or the needling sensation radiated to the radial sides of the thumb, the index figure and the middle figure of the affected limb. The needle was removed after retained for 20 min (Fig. 1). The treatment was given once a day, five treatments made one course and a total of 2 courses of treatment were required. The therapeutic effects were analyzed statistically after 2-course treatments.

Therapeutic observation

The criteria of therapeutic effects were developed in compliance with *Peripheral neurology in acupotomy* [1]. Cured: numbness and pain on the hand dorsum and in the forearm disappeared, hand weakness disappeared, NCV ≥ 45 m/s in electrophysiological test. Remarkably effective: numbness and pain in the dorsal hand and the forearm obviously alleviated, hand weakness obviously improved, NCV < 45 m/s in electrophysiological test. Improved: no improved in numbness and pain in the dorsal hand and the forearm, as well as NCV in electrophysiological test.

After the 2-course treatments, the therapeutic effects were analyzed statistically. Of 52 cases, 50 cases were cured, accounting for 96.2% and 2 cases remarkably effective, accounting for 3.8%. In all of 52 cases, the mean NCV of the superficial radial nerve was (29.31 ± 5.94) m/s before treatment and it was (49.38 ± 2.97) m/s after treatment. NCV was improved obviously in comparison before and after treatment, indicating the significant difference ($P < 0.05$).

In 1 year of follow-up visit, there was no any case of recurrence, meaning that none of 52 patients presented numbness and pain in the dorsal hand dorsum and the forearm as well as weakness in the hand. All of the patients had normal motor function of the affected limbs in the daily life and work.

Typical case

A male patient, 35 years old, first visiting on August 2, 2010. Chief complaints: right forearm pain and weakness for 1 month, aggravated for 3 days after cold invasion. He was used to be treated with acupuncture, acupotomy and medication, no satisfactory result was obtained. The patient visited the Rehabilitation Department of the Hospital because of the unsatisfactory effects with the previous treatments. Physical examination: the brachial plexus traction of the right was negative, the local tenderness in the elbow was negative, hand weakness, induced pain in clenching fist and the forearm pronation, both of Tinel's sign (+) and Mill's sign were negative. Electrophysiological test: 30 m/s in NCV of radial nerve. X-ray test of the cervical vertebra in the front, lateral and bilateral oblique positions: no obvious abnormality found. Tongue and pulse: thin and white tongue coating, slow pulse. Diagnosis in western medicine (WM): entrapment syndrome of superficial radial nerve. Diagnosis in traditional Chinese medicine (TCM): *bi* syndrome (cold and damp obstruction). Treating principle: warming and unblock the meridian and collateral, expelling cold and removing damp. Acupoint selection: LI 9 (on the right side). Manipulation: The patient was in sitting position with the affected arm put naturally on the treating table, the cushion was put under the forearm and the elbow flexed slightly. After strict sterilization on the selected acupoint, according to the muscle thickness in the local area, the single-used filiform needle, 0.30 mm × 40 mm was used. The short thrust needling technique was adopted to stimulate LI 9. Firstly, the needle was inserted gradually and deeply until the needle tip touched the radial periosteum. Secondly, the needle body was tilted to form an angle about 30° with the skin surface. Thirdly, the needle handle was lifted and thrust short and swiftly to induce the gentle rubbing of the needle tip on the periosteum. The stimulation intensity of this needling technique was determined by the obvious soreness and distention in the local area or the needling sensation radiated to the radial sides of the thumb, the index figure and the middle figure of the affected limb. The needle was removed after retained for 20 min. The treatment was given once a day and all of the symptoms disappeared after 3 treatments. NCV of the radial nerve was 55 m/s in the electrophysiological test after treatment. The patient was advised to avoid air conditioner and overstrain. The disease did not occur in the follow-up visit 1 year later.

Discussion

The radial nerve divides into superficial branch and deep branch in the anterior of the lateral epicondyle of humerus. The superficial branch of it runs in the deep layer of the branchioradialis, along the lateral side of radial nerve. It is widely separated from the radial artery in the upper one third of the forearm, closely related to radial artery in the middle third of the forearm. In the middle third and the lower third of the forearm, it descends in the forearm under the tendon of branchioradialis, crosses branchioradialis to enter posterior of forearm and runs down to the dorsum of hand [3]. The long-term repeated movement of the wrist induces the repeated traction and rubbing to the superficial branch of radial nerve, resulting in the aseptic inflammation. Consequently, the numbness and weakness in the dorsal aspect of hand and the wrist occur [4].

The author had adopted the treatments such as having a rest, physical therapy, acupotomy [1] and local blocking injection [5] for the disease, the satisfactory effects had not been received yet. A majority of patients was unwilling to accept the operative treatment. In clinical practice, the author found that the short thrust needling at LI 9 presented the good effects on the disease. Hence, a series of research was carried on the disease. It is further verified that the short thrust needling at LI 9 is characterized as less point

selection and short treatment course for entrapment syndrome of superficial radial nerve.

Entrapment syndrome of superficial radial nerve is in the category of *bi* syndrome in TCM. It is related to the damage of bone, tendon and muscle as well as the related pathological factors. Bone, tendon and muscle depend on mutually, and they are coordinated in physiology and mutually affected in pathology. In terms of the season involved and symptoms, rather than simply based on the anatomic sites, *bi* syndrome is divided into different types. *Sūwēn* (《素问》 Plain Question) says that all kinds of *bi* syndromes are caused by the repeated invasion of pathogenic wind, cold and damp to the internal organs in the dominant season. Hence, *bi* syndrome of bone mentioned in *Huángdì nèijīng* (《黄帝内经》 The Yellow Emperor's Inner Classic) cannot be understood as the simple bone disorder. It should include the relevant diseases of arthrosis and peripheral soft tissues. Hence, the author expanded the action of the short thrust needling to treat entrapment syndrome of superficial radial nerve, rather than originally for *bi* syndrome of bone. *Língshū: Gūanzhēn* (《灵枢·官针》 Miraculous Pivot: Application of Needles) says that in the short thrust needling method, the needle is inserted with slight shaking down to the bone that suffers from *bi* syndrome of bone. And then the needle is gradually pushed further into the body until its tip reaches the region close to the affected bones, after that, the needle is moved up and down as if rubbing the bones. The feature of this needling technique is deep insertion, close to the affected bone and shaking the needle handle while inserting it deeply. The short thrust needling is a compound method in which the needle is inserted deeply to the bone and the needle is manipulated by the lifting and thrusting technique as close to the bone [6]. Through inserting deeply the needle in layers and shaking the needle handle, the pathogens located in bone, tendon and muscle layers are eliminated and the pathway of meridian *qi* is promoted. As a result, the disease is cured.

Some clinical researches [7,8] showed that the short thrust needling at bone surface, in which the sinew is distributed, stimulated the stiffened and swollen fascia, inhibited inflammatory exudation, reduced the hyperplasia of connective tissue and repaired the function of the local muscular tissue. At the positive point of the injured ligament, the combination of the needling techniques such as deep insertion, lifting, thrusting and twisting, the short thrust needling achieved the improvement of the local microcirculation, the release of ligament adhesion and the remission of the syndromes in neurological deficit [9,10]. Additionally, some animal experiments proved [11,12] that the short thrust needling at the peripheral points of the joint lesions in the model rabbits relieved the spasm of local muscles and ligament, reconstructed mechanical

equilibrium, promoted blood circulation and removed numbness. Additionally, the short thrust needling accelerated the release of analgesia substance to improve pain threshold and relieve pain in the model rabbits.

LI 9 is the acupoint of the large intestine meridian of hand-*yangming*, located nearby the elbow joint, in which the sinew of hand-*yangming* meridian is converged. It is indicated in the treatment of pain in the elbow and arm and numbness in the hand and arm. It is believed in the modern anatomy of acupoints that LI 9 is located between the brachial extensor and abductor pollicis on the radial side, through which, the radial nerve and the branch of radial artery pass [2]. The short thrust needling at this acupoint effectively removes the adhesion of muscles and ligaments, improves the local microcirculation and relieves the aseptic inflammation of superficial branch of radial nerve so as to cure entrapment syndrome of superficial radial nerve.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.wjam.2018.12.001.

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膈上2寸为中心，双向旁开3寸分别向任脉方向平直透刺，均取双侧，连接电针仪，疏密波刺激30分钟。针刺结束后，选用中号玻璃火罐，以闪罐法对上述穴位进行拔罐，以皮肤微红为度。每日治疗1次，5日后隔日1次，10次一疗程。选择耳穴饥点、神门、内分泌、三焦，隔日针刺一次，10次一疗程。3个疗程后观察患者的腰臀围、体重以及体质指数的数值变化。结果：经3个疗程治疗后，90例肥胖症患者腰围治疗前为(92.3±2.4) cm，治疗后为(80.4±2.3) cm；臀围治疗前为(110.6±2.3) cm，治疗后为(99.2±2.5) cm；治疗前后的体重为(74.2±3.1 vs 68.2±2.4) kg，体质指数为(29.8±3.1 vs 25.2±2.1)。各项指标均明显下降，与治疗前比较差异均有统计学意义(均 $P<0.05$)。体重减轻3~5 kg者为79例，占87.8%。结论：腹部透刺闪罐法配合耳针治疗单纯性肥胖的临床疗效显著。
[关键词] 单纯性肥胖；透刺；腹针疗法；拔罐；耳针疗法

Twenty cases of temporomandibular disorders with warming-needle moxibustion on ginger at Xiàguān (下关 ST 7)

隔姜温针灸下关穴治疗颞下颌关节紊乱病20例临床观察

ARTICLE INFO

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ABSTRACT IN CHINESE

[摘 要] 目的：观察隔姜温针灸下关穴治疗颞下颌关节紊乱病的临床疗效。方法：20例颞下颌关节紊乱病患者接受患侧下关穴针刺，而后将自行制备的上放有艾绒的圆饼状生姜套置在针上，点燃艾绒施灸。艾绒燃尽，再放生姜和艾绒为一壮，每次灸3壮。每日1次，7次为1疗程，1个疗程结束后评定疗效。结果：20例患者中，痊愈12例，好转7例，无效1例，有效率达95.0%。经3次治疗即有效者14例。治疗后1个月随访，1例患者因张口过大复发，但疼痛较轻，自行按揉后缓解。结论：隔姜温针灸下关穴治疗颞下颌关节紊乱病临床疗效理想。
[关键词] 颞下颌关节紊乱病；隔姜温针灸；下关

Fifty two cases of entrapment syndrome of superficial radial nerve treated with short thrust needling at Shànglián (上廉 LI 9)*

上廉穴短刺治疗桡神经浅支卡压综合征52例*

ARTICLE INFO

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正文见本期第294~296页

ABSTRACT IN CHINESE

[摘 要] 目的：观察上廉穴短刺治疗桡神经浅支卡压综合征的临床疗效。方法：共治疗52例，取患侧上廉穴。进针后，先使针尖触及桡骨骨膜，再将针体倾斜与皮肤约呈30°，使针尖在骨膜上轻度摩擦，以局部产生明显酸胀感或针刺放射至患肢桡侧大拇指、示指和中指为度，留针20 min。每日治疗1次，5次为一疗程，共治疗2个疗程。结果：52例患者中治愈50例，占整体的96.2%，显效2例，占整体的3.8%。患者治疗后桡神经浅支传导速度平均为(49.38±2.97) m/s，快于治疗前的(29.31±5.94) m/s，差异具有统计学意义($P<0.05$)。结论：上廉穴短刺治疗桡神经浅支卡压综合征临床疗效较好，取穴少、疗程短，适宜临床推广。
[关键词] 桡神经浅支卡压综合征；Wartenbery综合征；短刺；上廉穴

Adhesive ileus in pregnant women
孕妇粘连性肠梗阻案

ARTICLE INFO

第一作者：崔丽娜，主治医师。

ABSTRACT IN CHINESE

[摘 要] 目的：1名孕不足24周、伴有粘连性肠梗阻孕妇，为了保证胎儿的