

The Treatment of Notalgia Paresthetica with Traditional Chinese Medicine: A Case Study

Abstract

Notalgia paresthetica (NP) is a common, under-diagnosed chronic skin disorder that typically manifests as a pruritic, hyperpigmented patch on the upper back. Although its exact prevalence is unknown, NP is thought to affect a significant proportion of the adult population worldwide. The aetiology of this condition is multifactorial: musculoskeletal dysfunction affecting the spinal nerves, increased dermal innervation and hereditary influences may all play a role. The effectiveness of conventional medical treatments varies, with some patients not experiencing any improvement in their symptoms. This case summarises the effect of Chinese medicine – primarily acupuncture and Chinese herbal medicine with supplementary tuina and dietary therapy – on a 54-year-old female patient with NP who had responded minimally to Western medical interventions. After six weeks of treatment the patient reported almost total relief of itch on her upper back, as well as improvements in her health overall. No adverse events were observed. Chinese medicine may be a safe and effective treatment to address both the symptoms and underlying causes of NP.

Background

Notalgia paresthetica (NP) is a chronic skin disorder characterised by persistent pruritus of the skin of the upper back. Dermatologists postulate that the itch associated with NP instigated the invention of the back-scratcher, a tool that has been used cross-culturally for centuries (Ellis, 2013). Recent biomedical research suggests that muscular and vertebral disc impingement of nerves exiting the spinal cord can cause pruritus in the associated cutaneous dermatomes (Savk, 2011). Other aetiologies have been reported, such as heredity and increased dermal innervation (skin-scratching is associated with multiplication of cutaneous nerve fibers, although which constitutes the original cause remains unclear – see Yamaoka et al., 2007). Diagnosis of NP is primarily based on clinical history, with most patients reporting a long history of pruritus of the upper back or shoulders that is only partially responsive to topical steroids and emollients. Typically, physical examination is unremarkable aside from excoriation in the affected area. In longstanding cases, a hyperpigmented, thickened patch may be present that is evidence of chronic rubbing.

Medical doctors unacquainted with notalgia paresthetica may consider the condition irrelevant or benign, or may not be aware of the typical features of NP and thus unable to make a diagnosis. Furthermore, patients experiencing mild or moderate pruritus may not report symptoms to their doctors. For these reasons, the condition is considered under-diagnosed, and patients with severe symptoms often find it difficult

to establish care with a provider who can offer advice and treatment (Perez-Perez, 2011; Savk, 2011). Western biomedical treatments for NP include application of topical capsaicin cream, topical corticosteroids, topical anaesthetics, gabapentin, cutaneous stimulation, paravertebral nerve block and spinal nerve decompression surgery. There is no standard treatment, although the above-mentioned therapies – listed here from lowest to highest risk – have been proposed as a reasonable progression (Perez-Perez, 2011; Yosipovitch, 2008). However, effectiveness has been difficult to assess because only papers describing small-scale case series and case reports have been published (Perez-Perez, 2011). Acupuncture has been shown to relieve the symptoms of NP (Stellon, 2002).

Current understanding suggests the aetiology of NP is multifactorial, with musculoskeletal dysfunction contributing heavily to symptoms. If this is so, topical treatment of the skin of the affected dermatome will not address the underlying pathology. We postulate that acupuncture and Chinese herbal medicine may be useful in treating the symptoms of NP, as well as the underlying conditions that predispose patients to this disorder. Here we report on the six-week treatment of a patient with NP using acupuncture, herbs and ancillary Chinese medicine modalities, which resulted in near-total remission of itch symptoms as well as health improvements in other areas.

Case history

A 54-year-old female presented with a two-year history

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Keywords: Chinese medicine, acupuncture, Chinese herbal medicine, itch, pruritus, notalgia paresthetica, tuina, dermatology, case study.

of pruritus of the left thoracic back. The patient reported this itch as feeling deep, dry and local. She scratched constantly, but most of the time this did not alleviate her symptoms. The itch was more severe during the day (rated at eight on a scale of one to 10) than at night (rated at five out of 10), and was particularly provoked by contact with her bra strap or when drying off after a shower. Eight months prior to presenting in clinic she had been diagnosed with NP by a dermatologist. A biopsy of the pruritic area was read by a general pathologist as indicating post-inflammatory hyperpigmentation (histological changes that are often seen in skin that has been chronically rubbed or scratched). Showering, Sarna lotion (a menthol and camphor-based moisturiser), clobetasol (a high potency topical steroid) and Cordran tape (a corticosteroid tape) provided only temporary relief.

The patient's past medical history was significant for recurrent plantar fasciitis, aches and pains in the shoulders, metacarpal-carpal joints and hips, as well as acid reflux and orbital headaches. She also reported ongoing hypertension and hypercholesterolaemia. As a young adult she had suffered from frequent nosebleeds. Past surgical history included one caesarean section and a hysterectomy due to a large uterine fibroid, with associated menorrhagia. Medications being taken included omeprazole (a proton-pump inhibitor), quinapril (an angiotensin-converting enzyme inhibitor) and lovastatin (a statin). The patient also took supplements of vitamins C and D, and glucosamine.

The patient passed loose stools twice a day, and had a twenty-year history of gradual weight gain. She reported cravings for carbohydrate-rich foods. She also experienced night sweats, a perceived sensation of 'running warm', a strong thirst for ice water, unrestful sleep, bruising easily and post-prandial fatigue. Her emotional stress was not particularly high.

Physically, the patient appeared as an overweight Caucasian woman who looked her stated age. Her shen (visible in the eyes) was good. Her pulses were of moderate rate with an overall slippery and soggy quality, and were weak in the Heart position. Tongue examination revealed a thick, greasy and slightly yellow coat with a deep central crack and pale-orange, swollen sides. Purple spots were visible towards the root of the tongue. She had moderate hyperkyphosis of the thoracic spine and the upper back musculature was tight. Examination of the skin revealed a hyperpigmented, atrophic circular patch approximately three centimetres in diameter that was lateral to the mid-thoracic spine, medial to the scapula and covered the Heart back-shu point. This area looked echymotic, with hues of purple and blue. Near the centre of this patch there was a small scar at the site of her previous skin biopsy.

Diagnosis

Based on the patient's history of caesarean section, uterine fibroids, menorrhagia, hysterectomy, nosebleeds and

musculoskeletal pain, blood stasis was clearly a significant aspect of her condition. Signs confirming this included the hyperpigmented patch and stasis spots on the root of her tongue.

The patient's chief complaint of itch was paradigmatic of wind. Typically, internal wind results from blood deficiency. In this patient, although the quality of the blood was adequate, her pruritic tissues were under-perfused because of stasis. Just as a stagnant river becomes fetid and cannot irrigate the surrounding countryside, this patient's blood needed invigorating in order to improve its function.

The symptoms of post-prandial fatigue, weight-gain, easy bruising and soggy pulse indicated an underlying qi deficiency in the middle jiao, while the indigestion, hypercholesterolaemia, strong thirst, heat sensations, night sweats and greasy yellow tongue coat evidenced the excess components of phlegm, damp and heat.

Based on the patient's symptoms and our observations, we diagnosed blood stasis and internal wind, with qi deficiency and phlegm, damp and heat in the middle jiao.

Treatment

We aimed to move blood and quell internal wind using herbal medicine and acupuncture to alleviate the patient's primary complaint of itch. We also believed the patient's hyperkyphosis and tight back musculature was inhibiting the flow of qi and blood around the pruritic patch, and therefore we performed tuina massage (rolling, plucking and percussion) along the paraspinal muscles and on and around the patch prior to each acupuncture treatment. We also believed that a middle jiao unburdened of phlegm, damp and heat and replete with qi would improve the quality and circulation of our patient's blood, as well as improve her secondary health concerns. To this end, we encouraged dietary changes.

We chose 'yang ci' needle technique for local treatment of the hyperpigmented patch. Indicated in Chapter 7 of the *Huang Di Nei Jing* (Yellow Emperor's Classic of Internal Medicine) for dispersing cold, yang ci seemed a good choice for stagnation in the tissue showing a purple-blue colour (Wu & Wu, 1997). This involved superficially threading five to eight needles from the periphery towards the centre of the patch, with one to three needles threaded perpendicularly underneath the biopsy scar line. Needles used were AcuTek brand (China) 0.25 x 40mm or 0.30 x 40mm filiform needles. The thicker needles were used under the biopsy scar and in the dense blood stagnation of the hyperpigmented area, while the thinner needles were chosen for distal points. 0.25 x 30mm needles were used for back-shu points. The following points were also needed, stimulated until deqi was elicited, and retained without further stimulation for 25 minutes:

- Xinshu BL-15: The Heart back-shu point treats all disorders of the Heart, and was chosen based on the

statement from the *Huang Di Nei Jing*, Chapter 74, that all syndromes that itching is associated with the Heart (Wu & Wu, 1997).

- Dushu BL-16: This point treats pruritus and other skin disorders (Deadman et al, 2007).
- Geshu BL-17: As the hui-meeting point of blood, this point invigorates blood and disperses blood stasis. [The above cluster of three back-shu points were also chosen because of their proximity to the hyperpigmented patch and the patient's area of hyperkyphosis.]
- Pishu BL-20: This point tonifies Spleen qi and harmonises the middle jiao, and was used in combination with Sanyinjiao SP-6 for this effect.
- Sanyinjiao SP-6: This point was chosen to tonify the Spleen and nourish blood.
- Taichong LIV-3: This point was chosen to nourish blood and extinguish wind, and served to counterbalance the points in the upper body.
- Fengchi GB-20: Pathological wind is implicated in pruritus, particularly when pruritus affects the upper part of the body, which is why we chose to needle Fengchi GB-20 in combination with Taichong LIV-3.
- Quchi LI-11: We used this as an empirical point for itch, and to access the Lung's governance of the skin through its internal-external relationship with the Large Intestine.
- Weizhong BL-40: We chose Weizhong BL-40 along with Quchi LI-11 because of their classification as he-sea points. The *Huang Di Nei Jing Ling Shu* (Spiritual Pivot) cites the he-sea points as being beneficial for skin diseases (Wu & Wu, 1997).

We also prescribed the following modified prescription of *Xue Fu Zhu Yu Tang* (Drive Out Stasis from the Mansion of Blood Decoction), three grams to be taken three times daily, made with Kaiser Pharmaceutical Co. (Taiwan) granules:

Tao Ren (Persicae Semen) 7g
 Hong Hua (Carthami Flos) 7g
 Dang Gui (Angelicae sinensis Radix) 7g
 Bai Shao (Paeoniae Radix alba) 7g
 Chuan Xiong (Chuanxiong Rhizoma) 7g
 Sheng di Huang (Rehmanniae Radix) 7g
 Chai Hu (Bupleuri Radix) 7g
 Zhi Shi (Aurantii Fructus immaturus) 7g
 Huai Niu Xi (Achyranthis bidentatae Radix) 7g
 Jie Geng (Platycodi Radix) 7g
 Zhi Gan Cao (Glycyrrhizae Radix) 4g
 She Chuang Zi (Cnidii Fructus) 9g
 Suan Zao Ren (Ziziphi spinosae Semen) 9g
 Quan Xie (Scorpio) 2g

We chose *Xue Fu Zhu Yu Tang* (Drive Out Stasis from the Mansion of Blood Decoction) for its effects on blood. Similar

to *Tao Hong Si Wu Tang* (Four-Substance Decoction with Safflower and Peach Pit), it moves and nourishes blood, but also incorporates *Si Ni San* (Frigid Extremities Powder), a formula that invigorates stagnant qi. This combination ensures the harmonious reciprocal relationship between blood, the mother of qi, and qi, the commander of blood. Having affinity to the Lungs and able to move Lung qi, Jie Geng guided the formula to the upper jiao, the region of this patient's itch. Huai Niu Xi is a potent blood mover, and paired with Jie Geng capitalised on the aforementioned relationship between qi and blood.

We modified this formula to target pruritus. She Chuang Zi relieves itch and dries dampness (Bensky et al, 2004). The *Nei Jing Su Wen* and *Ling Shu* state 'jiu bing ru luo' – chronic disease enters the collaterals. This phrase was later codified by Ye Tian Shi, and here was used to justify the inclusion of Quan Xie, an insect especially good for unblocking collaterals and extinguishing wind (Bensky et al, 2004). Suan Zao Ren nourishes Heart yin and blood, and was chosen based on its ability to address itch through the blood and Heart.

Additionally, we recommended that the patient eliminate ice water and instead drink room temperature water in between meals, as well as increasing her intake of vegetables and decreasing intake of heavy and greasy foods. We also asked her to take the herbal formula consistently and return for weekly acupuncture treatment, although we anticipated potential difficulty with visit frequency, as it was winter and the patient had to drive 90 minutes each way to our clinic for treatment.

Outcomes and prognosis

After the third acupuncture session, the patient reported experiencing four consecutive days without itch. The itch had recurred in the three days prior to the fourth session, but with substantially reduced intensity (she described it as 'less annoying' and 'not as deep'). Furthermore, she experienced an overall reduction of musculoskeletal pain, normalisation of her subjective body temperature, less thirst with less intake of water, and no desire for ice water. She also described increased energy, especially in the evenings and after lunch. The blood stagnation spots on her tongue had cleared, although her right pulse remained slippery. We (and the patient) perceived that the hyperpigmented patch had lightened in colour. At this visit we instructed the patient to have her husband use indirect moxa (Hoist smokeless moxa pole, China), over the hyperpigmented patch whenever she experienced symptoms in order to facilitate blood movement. The patient reported that she had been diligent in her dietary, herbal and moxibustion self-care.

At the five-week visit, the patient reported itching 'hardly at all'. She occasionally caught herself wondering why she was not feeling itchy, although this seemed to provoke itch. At this visit, she also reported that she had not experienced

any episodes of feeling hot during the day or night, and that her sleep seemed more restful. Her tongue coat was now thin and white, and the tongue body was a healthy light pink. The right pulse was no longer slippery, but was now soft in quality. At this juncture, we reviewed the progress in resolving both the root pathomechanism and branch symptoms. The tongue and pulse, as well as the patch colour, corroborated the patient's experience of symptom resolution. Based on the relatively short response time using traditional Chinese medicine and lifestyle changes, we thought the prognosis excellent and referred the patient to a Chinese medicine practitioner closer to her home for continued care. Nine months after leaving our clinic, the patient's new practitioner reported her symptoms were still largely resolved, despite a motor vehicle accident that had caused a temporary exacerbation of pruritus, and that the patch continued to lighten and shrink in size.

Discussion

Acupuncture is an under-utilised treatment for patients with NP. A retrospective case series of patients with neurogenic pruritus (of which NP is one variety) from a primary care physician in the United Kingdom reported total resolution of symptoms in 75 per cent of patients. In this series, an average of four acupuncture treatments - consisting of deep paravertebral stimulation in the dermatomal segments affected by pruritus - were performed to relieve muscle spasm (Stellon, 2002). The treatment strategy outlined in this case series is typical of published reports on the use of medical acupuncture, nerve blocks and transcutaneous electrical nerve stimulation to treat NP, that rely on direct stimulation of areas of tight soft tissue and spinal nerves suffering damage or impingement. Unfortunately, despite the initial success of this treatment, 37 per cent of patients in this series relapsed within 12 months of their last session of acupuncture.

In rectifying her condition, we referred to the axiom 'zhi feng xian zhi xue, xue xing feng zi mie' ('To treat wind, first treat the blood; when blood moves, wind naturally disappears').

In our case, acupuncture was also performed on the paravertebral muscles, the back-shu points and the hyperpigmented patch, but it was neither particularly deep nor strongly stimulating. We also included distal points that promoted physiological movement of blood and fluids. Our treatment strategy, which included Chinese herbal medicine, dietary modification, tuina and moxa, illustrates a whole-system approach to the treatment of NP. In addition to symptomatic relief, our patient also experienced overall health improvements. This suggests that Chinese medicine diagnosis and treatment may have addressed the causative

factors of the disease.

One salient feature of our diagnostic reasoning in this case concerns the connection between blood, the pathological factor of wind, and the symptom of itch. Itch is a symptomatic manifestation of wind. Wind that causes itch can be external or internal. The former is common with allergic dermatitis and urticaria, and the latter typical of pruritus secondary to xerosis, as is seen in the elderly. Our patient, whom we diagnosed with blood stasis, suffered itch as a manifestation of internal wind. In rectifying her condition, we referred to the axiom 'zhi feng xian zhi xue, xue xing feng zi mie' ('To treat wind, first treat the blood; when blood moves, wind naturally disappears'). This statement bolstered our diagnostic rationale, and guided our herbal strategy.

Two statements from the *Nei Jing Su Wen* further informed our thinking. The first is from Chapter 52, 'xin bu yu biao' ('The Heart governs the exterior'). The second is from Chapter 74, 'zhu tong yang chuang, jie shu yu xin' ('All painful and itching sores are associated with the Heart'). From this we deduce that the Heart must be considered when treating pruritus. The position of the hyperpigmented patch on the Heart back-shu point supported this idea. The *Nei Jing Ling Shu*, Chapter 9, states, 'yang zhe, yang ye' ('Itch is a yang syndrome'). This statement is in accordance with our understanding that itch presents on the yang aspect of the body - the skin - and that it is a manifestation of wind - a yang pathogen. Chapter 9 continues with the treatment strategy, 'qian ci zhi', ('it should be needled superficially'), which we applied by needling transversely around and through the pruritic patch.

The case outlined here provides evidence that Chinese medicine offers a safe method for alleviating the symptoms of NP. Though this patient's outcome was favourable, we recognise that during the course of disease there can be natural remission of symptoms with time. In addition, this patient was highly motivated to heal, as displayed by her driving 90 minutes each way to our clinic, following our dietary recommendations, and complying with herbal therapy. Her desire to feel better may have influenced her reporting of symptoms. Furthermore, tight muscles impairing the spinal nerves may cause NP in some people, and thus we acknowledge the possibility that the acupuncture and tuina massage around the back-shu points alone may have addressed the pathology.

Conclusion

Acupuncture and Chinese herbal medicine can be helpful interventions for the symptom of itch in NP. With proper diagnosis and treatment, these modalities can resolve the presenting symptoms and rectify the underlying pathology. We are aware of the limitations of this case study, and recommend more rigorous research to evaluate this treatment approach. Future research can substantiate what we have proposed as treatment and, importantly, ascertain

the mechanisms of action so that therapy can be efficient and targeted. Given the likely preponderance of NP in the population, but the paradoxical dearth of epidemiological evidence, better diagnostic procedures and reporting of NP are needed, and will promote clearer understanding of this condition.

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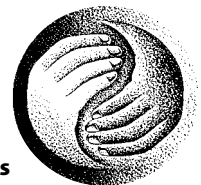
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