CLINICAL VIGNETTE

Acupuncture Treatment of Brachioradial Pruritis

Calvin Fong, MD and Lawrence B. Taw, MD, FACP

Case

A 65-year-old female with a history of cervical radiculopathy presented to East-West Medicine with a 15-year history of bilateral forearm and upper arm itching and burning sensation. Initially her symptoms were intermittent, but they became constant 5 years ago. Her symptoms worsen with sun exposure and temporarily improve with ice packs, Biofreeze, and Icy-Hot. When her symptoms flare-up, her sleep is adversely affected. Her medications and supplements included gabapentin twice daily, melatonin, and triamcinolone cream as needed for flare-ups. On physical exam, her skin revealed mild photoaging but otherwise no rashes or lesions. The remainder of her physical exam was unremarkable.

The patient was previously evaluated by multiple specialists, including neurology, dermatology, orthopedics, allergy, and pain management. She previously tried hydroxyzine and duloxetine, various topical agents including steroids, and an epidural cervical steroid injection without lasting relief. An MRI of her cervical spine revealed a posterior central annular tear at C5-C6, 1 mm posterior central disc protrusion at C6-C7, and disc desiccation of the cervical spine. A nerve conduction study was unremarkable without definitive evidence of cervical radiculopathy. Allergy testing was positive for cats and dust, but these did not seem to trigger her symptoms. She was eventually diagnosed with brachioradial pruritis by dermatology.

After presentation to our clinic, the patient was treated with acupuncture and provided lifestyle recommendations. From a traditional Chinese Medicine perspective, the patient's symptoms represented an internal heat and wind pattern with underlying Yin deficiency. Acupuncture points were chosen with the goal of clearing heat, expelling wind, and tonifying Yin. We advised a cooling and Yin-tonifying diet, including mint and flower teas, celery, cucumber, bitter melon, goji berries, and coconut water, along with avoidance of energetically warming foods, such as caffeine and alcohol. Topical aloe vera and daily moisturizing lotion were recommended as well as applying a transcutaneous electric nerve stimulation (TENS) unit over her forearms and upper arms.

The patient reported her symptoms improved about 70% after receiving ten treatments over a six-month period. Her symptoms were temporarily exacerbated after a trip to Hawaii during which she did not practice adequate sun protection, but overall, her itching and burning sensation reduced in frequency and severity. Furthermore, she woke up significantly less often at night due to her symptoms.

Discussion

Brachioradial pruritis (BP) is seen more commonly in middle-aged women, patients with fair skin, and those with more sun exposure.[1] It typically presents with pruritus localized to the proximal dorsolateral forearm, corresponding to the region overlying the brachioradialis muscle. It may also involve the upper arm, neck and shoulder, or upper trunk. Symptoms are usually bilateral but can be unilateral. In addition to pruritis, patients often feel associated burning, stinging, or tingling sensations while scratching can lead to excoriations, lichenification, and scarring. Symptoms flare with exposure to sun and improve with cold. Improvement of symptoms with cold therapy is called the "ice pack sign" and can help with the clinical diagnosis of BP. Some patients experience BP for weeks to months with resolution of symptoms after treatment; while others have lifelong symptoms that wax and wane.[2]

BP is considered a neurologic disorder and a neuropathic itch. The etiology of BP is unclear. However, it appears to be associated with ultraviolet radiation and spinal cord compression. In a retrospective study of 111 patients with BP, 54 patients (49%) reported prolonged exposure to the sun.[3] In the same study, cervical spine abnormalities were detected in 42 of 45 patients (93%) who underwent radiologic imaging. These abnormalities included cervical foraminal stenosis, protrusion of intervertebral disc, and spinal canal stenosis. Another observational study suggested the correlation of cervical nerve root impingement at C5 to C8 with the distribution of pruritis in BP patients.[4]

Because the pathophysiology of BP is poorly understood, there are a wide variety of treatments for this syndrome. A systematic review evaluating various treatments for BP found low-quality evidence to support the use of sun protection, topical capsaicin, and oral gabapentin as effective treatments for BP.[5] It also found small-scale studies investigating other oral medications such as anticonvulsants and antidepressants, physical therapy, behavioral therapy, minimally-invasive procedures, such as epidural steroid and botulinum toxin injections, and cervical spinal surgery. Topical steroids and anesthetics, topical and oral antihistamines, antipsychotics, and non-steroidal anti-inflam-

matory drugs have been anecdotally reported to improve symptoms as well.

The literature evaluating acupuncture for treating BP is sparse, including small studies and case reports. A retrospective study found that 12 of 16 patients (75%) with neurogenic itch treated with acupuncture of the correlating symptomatic dermatomal segments reported complete resolution of symptoms, with the other patients reporting partial resolution.[6] However, relapse of symptoms occurred in 6 of the patients within 1 to 12 months after their last acupuncture treatment. A systematic review and meta-analysis evaluating the effectiveness of acupuncture for general itch suggested that acupuncture could be effective in improving itching. However only 3 randomized controlled trials were included in this analysis, illustrating the need for further research.[7]

Another therapeutic modality that is relevant to our patient is the use of electrical stimulation. An uncontrolled open-label study investigated the effect of cutaneous field stimulation on 19 patients with either notalgia paresthetica or brachioradial pruritis. Patients were treated 20-30 minutes daily for 5 weeks with a cutaneous field stimulation device. Patients with localized itching experienced a mean reduction on the visual analog scale from 78% before treatment to 42% after treatment. The number of immunoreactive nerve fibers in the epidermis was reduced by 40% after treatment as determined by punch biopsies of pruritic patches of skin.[8]

As with many other dermatologic conditions, topicals may play an important role in the management of pruritis. Topical menthol, which is derived from mint, has been used to reduce itching while relieving irritation and inflammation of the skin.[9] Topical preparations of aloe vera, are commonly used. These have anti-inflammatory, antibacterial, and antifungal pharmacologic effects. In a double blind, placebo-controlled clinical trial, the efficacy of a salve made from aloe vera demonstrated a significant reduction in pruritis and scaling in 58% of patients with seborrheic dermatitis.[10]

Conclusion

Our case of BP was successfully treated with an integrative East-West approach. Because the etiology of BP is not fully understood, treating patients with multiple modalities may give them the highest chance of improvement. Studies evaluating the efficacy of acupuncture for treating neurogenic itch are minimal in number and scale and further studies are warranted.

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