



Case Report: Integrative East-West Approach to Acute Treatment of Bell's Palsy

Katie Hu, MD and Lawrence B. Taw, MD, FACP

Center for East-West Medicine, David Geffen School of Medicine at UCLA, Los Angeles, CA

Introduction

Bell's palsy is one of the most common causes of acute unilateral facial weakness with both distressing physical and mental sequelae. Only 71% have complete recovery of facial function¹, and those with residual deficits are left with disfiguring facial asymmetry, drooling, brow ptosis, incomplete eyelid closure, facial spasms, and excessive tearing¹⁻². Currently acute treatment includes glucocorticoid and antiviral therapy, but options are limited for patients who do not recover normal function³. Here we describe a case report of a patient with acute Bell's palsy successfully treated with an integrative East-West approach.

Case Presentation

CC: 45yo F with hx of fibromyalgia, ankylosing spondylitis, Raynaud's disease, IBS, plantar fasciitis, and Hashimoto's disease presented with Rt facial and tongue numbness and weakness for 11 days.

HPI: On day one, patient noticed Rt eye tearing, and numbness on right lateral tongue. On day two, patient woke up with Rt facial paralysis, eyebrow sagging, inability to close her eye, and right drooping of her mouth. Associated symptoms included hyperacusis, loss of taste and pain in Rt TMJ and retroauricular regions. Patient went to the ER where she was given 7-day course of prednisone and valacyclovir for acute Bell's palsy. Afterwards, she felt slight improvement in facial weakness and watery eyes but had persistent pain, significant weakness, and inability to close her eye. Prior to onset of Bell's palsy, patient noted that her other diseases, including fibromyalgia, IBS, and plantar fasciitis were in the midst of a "flare up". She stated she felt extremely frustrated and struggled emotionally in dealing with her chronic pain and active disease state. Moreover, her long time dog companion had passed away a few weeks prior. On day ten, the patient presented to our clinic.

Medications: celecoxib, cyclobenzaprine, tapentadol, pregabalin, certolizumab pegol, sulfasalazine, levothyroxine, liothyronine, levocetirizine, fluticasone propionate nasal, and hydrocodone as needed.

Physical Exam: Vital signs were within normal limits. Pertinent positive findings included severe right facial droop with paralysis involving the forehead, tearing and incomplete closure of the right eye, and decreased sensation to light touch on the right face consistent with House-Brackmann classification of V. Otherwise, she was neurologically intact. Lab studies in the ER including a CBC with differential, coagulation times and chemistry panel were all within normal limits. No imaging studies were performed.

Interventions and Outcome

Holistic Treatment Regimen:

- **Acupuncture:** Large Intestine 4 and 10, Stomach 36, Liver 3, Spleen 6, San Jiao 3 and Yintang. Local facial points included right side San Jiao 17, Small Intestine 19, Stomach 4 and 6, Large Intestine 20, and Tai Yang.
- **Active trigger point injections:** with 0.2mL of Vitamin B12 in her trapezius, splenius cervicis, and splenius capitis muscles
- **Facial acupressure massage**
- **Chinese dietary recommendations:** avoid raw and temperature cold foods. Avoid inflammatory foods such as coffee, processed/packaged foods, processed sugars, and fried foods. Incorporate more ginger, mint, and flower teas.
- **Stress management:** mindfulness exercises

Outcome:

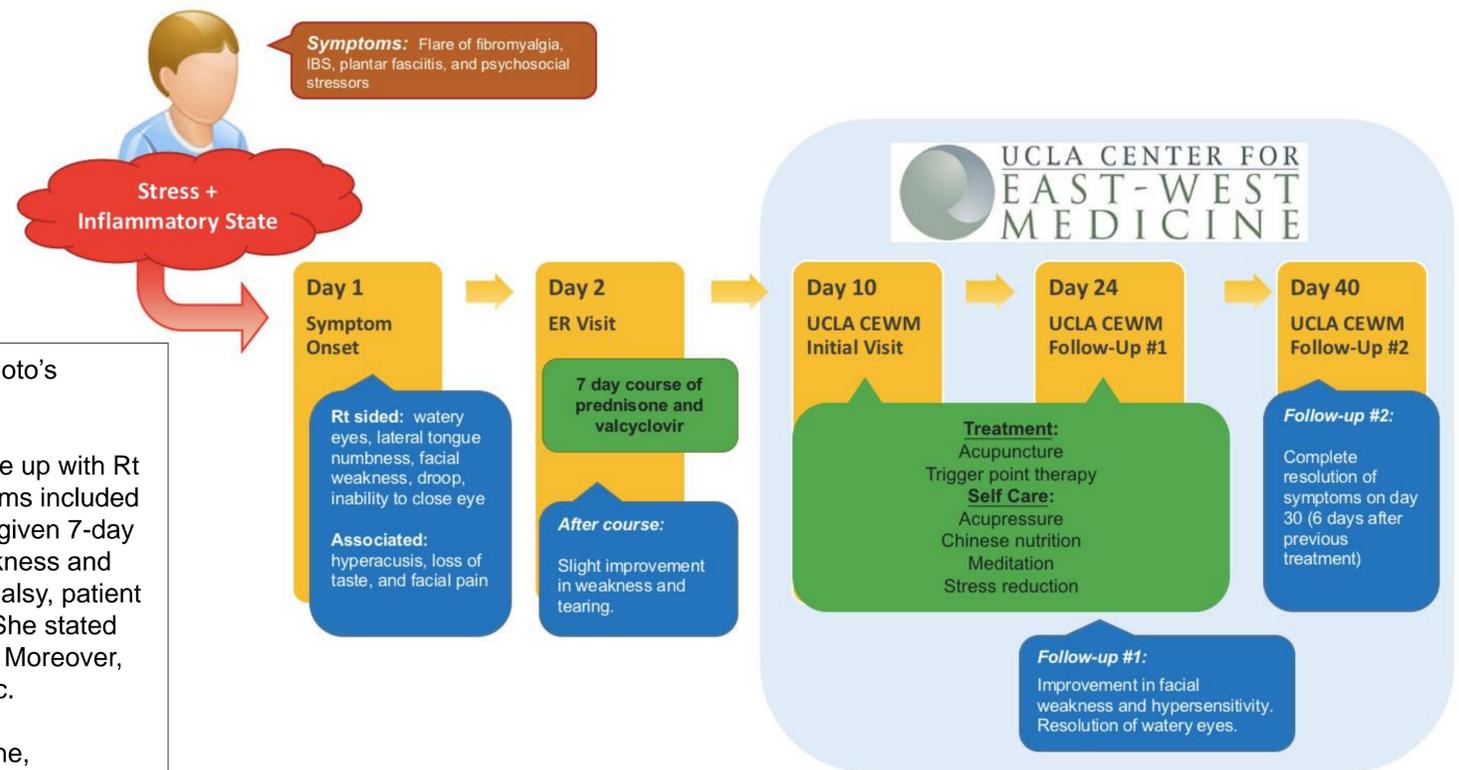
On day 30, status post two treatments, the patient noted resolution of her facial pain and hypersensitivity, eye tearing, and facial weakness. She was able to close her eye, crinkle her nose, smile fully without asymmetry, and had normal sensation.

Per patient, she had incorporated much of the self-care recommendations including meditative practices, overall stress reduction, and an anti-inflammatory diet including ginger and calming teas.

Figure 1: Pictures from Day 1, Day 9, and Day 30 as reported by patient.



Timeline



Discussion and Conclusion

The potentially distressing sequelae of Bell's palsy has prompted a search for reliable therapeutic options, especially in the acute setting.

Acupuncture has been studied for treatment of Bell's palsy. It is thought to increase nerve excitability, promote regeneration of nerve fibers, enhance muscle contraction and blood circulation, and accelerate metabolism and recovery of body functions⁴. Although the most recent Cochrane review investigating efficacy of acupuncture for Bell's palsy was inconclusive due to poor quality studies⁵, numerous smaller RCTs demonstrate acupuncture as a safe and effective intervention for treating Bell's palsy sequelae⁶. Furthermore, there is growing evidence describing the effects of acupuncture on stress regulation⁷, the anti-inflammatory response⁸, and pain modulation⁹, which may explain how it diminishes the symptoms associated with Bell's palsy.

Although the exact pathophysiology of Bell's palsy is controversial, the histopathology of the facial nerve is consistent with an inflammatory mechanism at large¹⁰. As such, lifestyle modifications focused on minimizing inflammation should be considered as part of a holistic self-care plan. Sleep disturbance¹¹ and psychosocial stress¹² have been linked to elevated levels of inflammation in the body. Meanwhile meditation and aerobic exercises can have anti-inflammatory effects on the body¹³⁻¹⁴.

Finally, Chinese dietary recommendations such as ginger, chrysanthemum, and mint may also help address the inflammatory and heightened stress associated with Bell's palsy¹⁵⁻¹⁷.

Conclusion: Here we report a case of Bell's palsy successfully treated utilizing an integrative approach incorporating acupuncture and other lifestyle recommendations aimed at minimizing inflammation including sleep, nutrition, and overall stress reduction.

References

1. Petersen E. The natural history of Bell's palsy. *Otol Neurotol*. 1982; 4:107-111.
2. Gildea DF. Clinical practice. Bell's palsy. *N Engl J Med*. 2004; 351: 1323-1331.
3. Glass GE, Trudena K. Bell's palsy: a summary of current evidence and referral algorithm. *Family Practice*. 2014; 31(6): 631-642.
4. He SH, Zhang HL, Liu Rong. Review on acupuncture treatment of peripheral facial paralysis during the past decade. *JTCM*. 1995; 15(1): 63-67.
5. Chen N, Zhou M, He L, Zhou D, Li N. Acupuncture for Bell's palsy. The Cochrane database of systematic reviews. 2010; 8. DOI: 10.1002/14651858.CD007914.pdf
6. Kwon HJ, Choi JY, Lee MS, Kim YS, et al. Acupuncture for the sequelae of Bell's palsy: a randomized controlled trial. *Trials*. 2015; 16:240. DOI 10.1186/s13065-015-0777-z.
7. Hui KK, Liu J, Makris N, et al. Acupuncture modulates the limbic system and subcortical gray structures of the human brain: evidence from fMRI studies in normal subjects. *Hum Brain Mapp*. 2009; 9: 13-25.
8. Mori H, Nishijo K, Kawamura H, et al. Unique immunomodulation by electro-acupuncture in humans possibly via stimulation of the autonomic nervous system. *Neurosci Lett*. 2002; 330: 21-24.
9. Vickers AJ, Cronin AM, Macchinn AC, et al. Acupuncture for chronic pain: individual patient data meta-analysis. *Arch Intern Med*. 2012; 172(19): 1444-1453.
10. Linton SJ, Kleid MS. Histopathology of Bell's palsy. *Laryngoscope*. 1989; 99(1): 23.
11. Irwin MR, Ohmstead R, Carroll J. Sleep disturbance, sleep duration and inflammation: A systemic review and meta-analysis of cohort studies and experimental sleep deprivation. *Biological Psychiatry*. 2016; 80(1):40-52.
12. Hanshul KE, Bishop MD. Chronic stress, cortisol dysfunction, and pain: a psychoneuroendocrine rationale for stress management and pain rehabilitation. *Physical Therapy*. 2014; 94: 1816-1825.
13. Black DS, Slavov GM. Mindfulness meditation and the immune system: a systematic review of randomized controlled trials. *Ann. N.Y. Acad. Sci* 2016; 1373: 13-24.
14. Beavers KM, Bittlesky TE, Nicklas BJ. Effect of exercise training on chronic inflammation. *Chin Chin Acta* 2010; 41: 785-93.
15. Kuan JP, Dowl PK, Kondapudi KK, et al. Anticancer potential of ginger: mechanistic and pharmacological Aspects. *Curr Pharm Des*. 2016; 22(27): 4160-4172.
16. Wu TY, Khoo TO, Saw CL, et al. Anti-inflammatory/Anti-oxidative Stress and Differential Regulation of NF2-Mediated Genes by Non-Polar Fractions of Tea Chrysanthemum zawabkii and Licorice Glycyrrhiza umelensis. *The AAPS Journal*. 2011; 13(1).
17. Park JB. Identification and Quantification of a Major Anti-Oxidant and Anti-inflammatory Phenolic Compound Found in Basil, Lemon Thyme, Mint, Oregano, Rosemary, Sage, and Thyme. *Int. J. Food Sci. Nutr*. 2001; 62(6). doi: 10.3109/09637486.2011.562882