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CLINICAL VIGNETTE

Integrative East-West Approach to the Treatment of Recurrent Tonsillitis

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Key Words: Recurrent Tonsillitis, Tonsillolith, Traditional Chinese Medicine, Integrative Medicine, East-West Medicine, Acupuncture

Abstract

Recurrent tonsillitis is a condition with multiple episodes of inflammation and infection of the tonsils. For most cases of recurrent tonsillitis in which antibiotics and nonsteroidal anti-inflammatory drugs (NSAIDs) are ineffective, surgery is considered the next best option, though it is expensive and may require extensive post-operative care. We describe the treatment of recurrent tonsillitis in a 29-year-old female with a 10-year history of infections. This case demonstrates how an integrative East-West approach to treating recurrent tonsillitis can serve as a viable alternative to surgery. The therapeutic intervention included acupuncture and traditional Chinese medicine (TCM) with an emphasis on dietary modification and stress reduction practices. Within 2 months of starting treatment, our patient reported no symptoms of tonsillitis, did not require additional antibiotics or steroids, and has had no additional episodes since.

Introduction

Tonsillitis, or inflammation of the tonsils, is predominantly the result of a viral or bacterial infection with sore throat, fever, difficulty swallowing, and potential formation of tonsilloliths.[1] The criteria for defining recurrent tonsillitis includes experiencing five or more episodes of tonsillitis per year, having symptoms persist for at least a year, and enduring episodes that are severe enough to disrupt normal functioning.[2]

A proper diagnosis of recurrent tonsillitis should begin with a thorough history and physical exam. It can be difficult to differentiate between sore throat and tonsillitis, therefore further evaluation involves pain scoring systems and consideration of throat culture or rapid antigen testing.[1,3] While recurrent tonsillitis is usually caused by a viral infection, it can also be caused by bacteria such as *Streptococcus pyogenes*, which should be considered when determining a treatment plan.[1] For most patients, the treatment of tonsillitis involves supportive care with hydration and NSAIDs, which can provide symptomatic relief.[1] In cases where the patient is at high risk for bacterial tonsillitis, antibiotic treatment is deemed appropriate.[1] For patients with recurrent tonsillitis in which the standard of care has proven to be ineffective and quality of life is being compromised, a tonsillectomy (or surgical removal of the tonsils) is indicated.[3]

We present a case involving a patient who, after a decade of recurrent tonsillitis infections, turned to an integrative East-West medicine approach for treatment. By implementing a comprehensive treatment regimen that included dietary modifications based on traditional Chinese medicine (TCM), acupuncture, and a significant emphasis on stress reduction, we attained positive outcomes without pursuing surgical intervention.

Case Presentation

A 29-year-old female with a past medical history of obesity, polycystic ovarian syndrome (PCOS), and chronic back pain presented with recurrent episodes of tonsillitis. The patient had three episodes of strep throat when she was 19 years old and had multiple episodes of viral pharyngitis. She reports 10 years of frequent tonsil infections requiring multiple rounds of antibiotics. At her initial evaluation by otolaryngology in October 2018, she described her tonsil infections as a “tickly cough” with fever, constant throat irritation, bilateral neck swelling, and odynophagia, with associated tonsil stones. She denied dysphonia, otalgia, malaise, dysphagia, loss of taste, pain with mandible excursion, or night sweats. She also denied sleep disordered breathing or mononucleosis.

After physical examination and rigid laryngoscopy with otolaryngology, the patient was diagnosed with tonsilloliths. She was initially recommended conservative management with oral hygiene, heat application, and NSAIDs without an indication for surgery. Upon re-evaluation a year later, she reported intermittent tonsil infections and throat pain at least once a month, with recurrent tonsilloliths at the apex of her tonsils. She had completed one course of antibiotics, despite negative strep cultures, without any benefit. She also noted her tonsillitis episodes to be more frequent after starting ibuprofin. The otolaryngologist recommended tonsillectomy to help prevent her recurrent tonsilloliths and tonsillitis.

She was reluctant to consider surgery and was referred by her PCP to the UCLA Health Center for East-West medicine (CEWM) to discuss alternative modalities for her recurrent symptoms. At her first visit she reported sore throat symptoms every 2-4 weeks for the prior 6-months with intermittent tonsil stones. Sore throat was associated with lethargy and sneezing.

She denied any new fevers, chills, vomiting, diarrhea, or upper respiratory symptoms and had no additional past medical history. Her social history was significant for increasing work-related stress. She reported sleeping seven to eight hours a night without difficulty staying or falling asleep. Her diet was primarily plant-based, with reduced amounts of meat, refined sugar, and cheese. She consumed 1.8 ounces of alcohol per week and did not drink coffee or soda. She denied smoking or illicit drug use. Her medications and supplements included ashwagandha, vitamin B-12, garlic capsules**,** melatonin, a multivitamin, and metformin for her PCOS.

Clinical Findings

Our initial physical exam at CEWM showed normal vital signs with her ear, nose, and throat exam notable for mild erythema with bilateral white tonsil stones. The neck was otherwise supple with full range of motion.

Recent lab studies included negative oropharyngeal STD testing, nasopharyngeal Influenza, point of care rapid Group A streptococcal tests, and two negative bacterial throat cultures. Her complete blood count was notable for a mild leukocytosis of 10,470 cells/μL with an absolute neutrophil count of 6,900 cells/μL.

Initial endoscopic nasopharyngoscopy four years prior reported normal mucosa of the base of the tongue and vallecula. Retrograde evaluation of the nasopharynx revealed bilateral intact eustachian tube orifices without obstruction. The oropharyngeal and laryngeal surfaces of the epiglottis were normal with normal vocal cord mobility. There was no pooling of secretions within the vallecula or hypopharynx.

Follow-up exam 1 year later by her otolaryngologist reported a symmetrical face with bilateral 3+ tonsillar hypertrophy with cryptic changes in addition to mild lateral and antero-posterior narrowing of the airway. There was no palatal bulging, uvular deviation, or peritonsillar abscess. Palatal elevation was within normal limits without tethering. Minimal diffuse inflammatory changes in the nasal cavity were noted, without any obstruction or purulence.

Therapeutic Intervention

An integrative East-West treatment plan was initiated at the patient's first visit. TCM has several principles for treating recurrent tonsillitis based on the patient's TCM pattern, primarily of having excess "Heat" in the system. At her first visit, the patient was prescribed specific acupuncture points and dietary and lifestyle interventions related to her pattern. Acupuncture utilized the following main points: LI-4, LI-11, Liv-3, St-36, Sp-6, GB-20, GB-34, Sp-10 (Sj 5). She was recommended to incorporate more cooling foods and remove dairy, sweets, and alcohol. Specific teas were recommended based on TCM nutrition including Pang Da Hai (Malva Nut tea for sore throat), green, mint, and lemon balm tea. For stress management, the patient was encouraged to initiate self-care practices such as yoga, acupressure and massage therapy.

Follow-Up and Outcomes

At her one-month follow-up, the patient had made significant progress with dietary modifications. She had completely eliminated alcohol, dairy, and sweets from her diet, and reported feeling "a lot better." She noted that while yoga helped to temporarily improve her stress, she still experienced significant stress and anxiety related to work. She reported her first panic attack in years, continued poor sleep duration and quality, including frequent nighttime awakenings, and increased fatigue, isolation, and tearfulness. The patient shared how she "truly believed stress was causing her tonsillitis." We administered an additional acupuncture treatment and encouraged the patient to continue her diet and yoga regimen. For her mood symptoms, we recommended follow up with her primary care provider to consider pharmacotherapy. At the PCP's office, the patient scored a 10 on a Patient Health Questionnaire-9 (PHQ-9) assessment, and started on fluoxetine, 10 mg daily.

At subsequent visit, one month later, she described further improvement in her tonsillitis symptoms. She noted an occasional scratchy throat, but denied any further tonsil stones or associated pain. Since starting fluoxetine, she also reported improved mood and stress levels. We administered another acupuncture treatment and encouraged continued self-care. At follow-up, 4 months later, she continued to deny any tonsillitis symptoms.

Discussion

Tonsils are composed of lymphatic tissue covered in respiratory epithelium. Acute inflammation of the tonsils, or tonsillitis, is predominantly due to viral or bacterial infections. Chronic tonsillitis, which is defined as the presence of inflammation and/or infection of the tonsillar tissue or oropharynx for at least three months, and appears to be more multifactorial.[3] The majority of research on the management of chronic tonsillitis has focused on the pediatric population. The widely utilized Paradise criteria helps determine the benefit of tonsillectomy for children ages 1-18 with recurring sore throat. Tonsillectomy is recommended when sore throat occurs 7 or more episodes in the past year, 5 or more episodes in each of the past 2 years, or 3 or more episodes in each of the past three years. Each episode is defined as a sore throat plus one or more of the following: temperature > 38.3 °C, cervical lymphadenopathy (>2 cm), tonsillar or pharyngeal exudate, or positive culture for Group A Strep with documentation of appropriate antibiotic treatment of streptococcal episodes.

Tonsilloliths, which are commonly called tonsil stones, result from the growth of bacteria in tonsillar crypts and deposition of calcium on desquamated cells.[4] These stones can be found in patients with a history of inflammatory disorders of the tonsils or adenoids but can also occur in those without such a history.[4]

Tonsilloliths can also be associated with dysphagia, halitosis, and throat pain.[5] The initial management of tonsilloliths includes maintenance of oral hygiene with regular brushing and flossing, smoking cessation, saltwater rinses after eating, hydration, and removals of stones with a water flosser.[6] When tonsilloliths occurring in patients with history of chronic tonsillitis, tonsillectomy is more favorably considered, although it remains the last line of treatment.[7]

Our patient reported more than 7 episodes of tonsillitis over past one year, with multiple episodes accompanied with fever, and one episode of without symptomatic relief with antibiotics. Tonsillectomy was appropriately recommended. Her concomitant tonsilloliths could serve as another indication for surgery.

A systematic review on tonsillectomies for chronic tonsillitis reports surgical intervention "is likely to improve the overall quality of life as it particularly improves patients' physical and general health."[8] What is not yet certain, is the disease stage for which a tonsillectomy can be considered cost effective.[9] A retrospective analysis of a United States insurance database analyzing 36,210 patients who underwent a tonsillectomy between 2002 and 2007. The average cost of the procedure without complications was $3,832, and cost with complications in 14 days to be $6,388 for hemorrhage, $5,753 for dehydration, and $4,708 for ENT pain.[9] The study also reported approximately 20% with at least one complication within 14 days of the procedures. Specifically 6.2% hemorrhages, 2% dehydration, and 11.5% for ENT pain.[9]

Our case suggests an additional management model to consider prior to tonsillectomy. Given the multifactorial causes of chronic tonsillitis, our integrative approach to the patient's recurrent tonsillitis addressed several potential contributors to the disease. We focused on reducing systemic levels of inflammation through acupuncture, diet, stress management, and improved psychological well-being.

Multiple studies support the link between systemic inflammation and chronic tonsillitis. A study of 92 children with chronic tonsillitis reported higher salivary pro-inflammatory cytokines TNF-alpha, IL1, and IL6 in children with tonsillitis compared to controls, with IL6 demonstrating a statistically significant difference.[10] Geibler et al. studied adult patients with recurrent acute tonsillitis and found significantly higher levels of IL6 in tonsillar tissue compared to controls.[11] Finally, Cvekovic et al. identified significantly higher levels of the oxidative stress marker thiobarbituric acid reactive substance (TBARS) in chronic tonsillitis patients compared to healthy controls both prior to and 4 weeks after tonsillectomy.[12] Each component of our intervention was specifically designed to reduce the elevated levels of systemic.

Traditional Chinese medicine's approach to recurrent tonsillitis begins by primarily attempting to clear "Heat" which is considered a pathologic factor, moisten dryness, relieve pain, and support immune regulation.[13] We first addressed the underlying risk factor "Heat" by focusing on her diet and stress. Furthermore, we suggested the elimination of dairy, sweets, and alcohol, foods historically associated with systemic inflammation in TCM. We also provided a list of teas to help cool her throat and counteract the "Heat." Teas with cooling properties in TCM include mint tea, chrysanthemum, and lemon balm tea.

We recommended Pang Da Hai (Malva nut) tea. Malva nut is considered to have antimicrobial, hepatoprotective, anti-inflammatory, and antioxidant properties and is traditionally used to treat colds, sore throats, coughs, tonsillitis, and bronchitis.[14] Several studies report Malva Nut is useful for the therapy of oral diseases as it contains various compounds, such as vitamins C and E, which have anti-inflammatory and antioxidant properties.[14] By following an anti-inflammatory diet rooted in TCM, our patient was able to strengthen her body's resistance to recurrent tonsillitis infections.

In addition to an inflammatory diet, the contribution of mental health disorders to systemic inflammation and chronic illness must also be considered. These disorders, including schizophrenia, anxiety, and depression, are listed among the top causes of disability years worldwide.[15] A Danish study by Eaton et al. examined the records of 7,704 patients with schizophrenia and reported a 50% higher lifetime prevalence of autoimmune disorders.[16]

Jang et al. reported increased anxiety in mice resulted in changes in the composition of the microbiota, increased blood corticosterone and inflammatory cells, IL-6, and lipopolysaccharide levels.[17] Anxiety disorders associated with chronic stress, have been linked to disruption of the hypothalamic-pituitary-adrenal axis and the autonomic nervous system, inducing systemic inflammatory conditions in the body.[18] Our patient reported significant work-related stress and anxiety. Recurrent tonsillitis could be exacerbated by poor management of her mental health. By addressing our patient's chronic stress and anxiety with acupuncture and pharmacotherapy, we impacted this potential contribution to her recurrent disease.

Finally, acupuncture has been shown to be effective in treatment of acute tonsillitis and pharyngitis infections. This was a crucial component of her treatment plan. A systematic review and meta-analysis by Shuo Zhang et al., included 19 randomized controlled trials with 1,701 patients, reported acupuncture was more effective than antibiotics and resulted in a lower incidence of adverse complications.[19] They showed a statistically significant difference in the reduction of sore throat duration, pain scores, and white blood cell count in the acupuncture group compared to the antibiotic group.[19] Overall, these findings underscore the efficacy and safety of acupuncture as a valuable treatment for recurrent tonsillitis.

Conclusion

Recurrent tonsillitis can cause significant physical and mental distress to patients. The multifactorial nature of recurrent tonsillitis complicates identification of effective treatment strategies, and presents substantial challenges for both patients

and healthcare providers. The standard treatment for recurrent tonsillitis typically involves antibiotics or NSAIDs, and when ineffective, consideration of tonsillectomy. This paper reports successful treatment of recurrent tonsillitis utilizing an integrative treatment model focused on TCM nutrition, acupuncture, and stress reduction.

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