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Professor Ye Gaxi's Clinical Experience in Treating Chronic Tonsillitis with the Scorching Method

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Abstract

Objective: Chronic tonsillitis is a common and frequently occurring disease in the clinic. At present, drug or surgery is the main treatment in modern medicine, but there are problems such as easy recurrence of the disease and poor acceptance by patients. Professor Ye Gaxi, who has been in the clinic for nearly 30 years, believes that chronic tonsillitis is mostly caused by external attack of evil heat and intermerging of phlegm and blood stasis, and the treatment should focus on diathermy and removing blood stasis. Therefore, he proposed the academic idea of applying cautery therapy to treat chronic tonsillitis by "expelling heat and promoting blood circulation to eliminate phlegm", and innovated the Tonsil cauterizer and oral endoscope. It can not only preserve the immune function of tonsils, but also avoid the occurrence of scalding oral organs during operation, and has a good clinical effect.

Keywords

Chronic Tonsillitis, Tonsil Cauterizer, Oral Endoscope, Flipping Burning, Academic Thought

1. Introduction

Chronic tonsillitis is particularly prevalent among children and adolescents, with statistical data indicating an incidence rate of 22.04% in the pediatric population [1]. During remission periods, the condition is often accompanied by symptoms

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and signs such as pharyngeal foreign body sensation, throat itching, dry cough, nasal congestion, mouth breathing, snoring, and adenoid facies. Recurrent episodes may lead to severe complications such as nephritis, rheumatic fever, and rheumatic heart disease, posing significant risks to children's health [2]. Modern medical research suggests that chronic tonsillitis typically results from repeated acute tonsillitis episodes, which compromise immune function and allow crypts to become a breeding ground for bacterial colonization, thereby inducing the disease.

Conventional clinical management of chronic tonsillitis primarily involves antibiotics and corticosteroids. While these treatments can reduce the frequency of inflammatory episodes and mitigate the severity of inflammation, they are prone to inducing drug resistance, leading to recurrent symptoms in patients [2]. The underlying cause lies in the ability of pathogenic bacteria to form biofilms on the tonsillar surface [3]. These biofilms act through antagonistic mechanisms to resist antibiotics, resulting in the persistence of a substantial bacterial load on the tonsils even after antibiotic therapy [4]. Consequently, pharmacological treatment for chronic tonsillitis often alleviates clinical symptoms but rarely achieves complete eradication of the focus [5]. Tonsillectomy is widely recognized in the medical community as an effective intervention [4]. Due to the invasive nature of the procedure, its inherent risks, and the potential for complications, parental acceptance is generally low [6]. Moreover, the tonsils serve as a crucial immune barrier; their removal during childhood, a critical period of growth and development, may lead to diminished immunity in the pharyngeal lymphoid tissues and an increased susceptibility to recurrent upper respiratory tract infections [7].

Therefore, achieving a complete cure while preserving the tonsils' physiological functions represents a key objective in modern medicine. Traditional Chinese Medicine (TCM) cauterization therapy, a quintessential external treatment in TCM, offers an effective solution to this challenge. However, the absence of specialized oral protection devices during the procedure carries a risk of burns to intraoral tissues, leading to low treatment acceptance and poor patient compliance. These challenges are further exacerbated when treating pediatric patients. To enhance the practicality and applicability of this technique, under the guidance of Professor Ye Gaxi, we designed a tonsil cauterization device and an intraoral speculum. Following approval by the hospital's theoretical committee, these devices have been implemented in clinical practice. Characterized by operational simplicity, safety, efficacy, and low cost, this approach presents a promising new strategy and methodology for the clinical management of chronic tonsillitis.

Professor Ye Gaxi, a doctoral supervisor, is the discipline and academic leader of Acupuncture and Moxibustion, a national key specialty. He serves as the Executive Director of the Ningxia Branch of the National Clinical Research Center for Acupuncture and Moxibustion, and Director of the Ningxia Clinical Research Center for Acupuncture and Moxibustion. As the head of the Academician Shi Xuemin's Studio (Honored Master of Traditional Chinese Medicine), Professor Yegaxi has developed a unique view in applying cauterization therapy for chronic

tonsillitis, achieving satisfactory clinical outcomes. The key aspects of his approach are summarized as follows.

2. The Etiopathogenesis and Diagnostic and Treatment Approach of Tonsillitis

The traditional Chinese medicine name for tonsillitis is "Ru'e" (Milk Moth), first appearing in "Rumen Shiqin · Houbi Men", which describes: "Single Ru'e, double Ru'e... forming a thin mass on both sides of the throat, resembling a swelling on the outside, thus named Ru'e." According to the onset speed, traditional Chinese medicine divides it into chronic Ru'e and acute Ru'e. Professor Ye Xi believes that this disease is mostly caused by factors such as wind-heat invading the lungs, accumulation of phlegm and dampness, intermingled blood stasis and heat, and deficiency of liver and kidney.

2.1. Heat Is Used to Drive Out External Pathogens

In the early stage of milky moth (ruls), the primary manifestation is Wind-Heat attacking the Lungs. The "Yangkexinhe Ji · On Throat Pain in Throat Moth" states: "When Wind-Temperature pathogens invade, they first attack the Lungs, transform into fire along the meridians, ascend into the collaterals, and accumulate in the throat, swelling like a silkworm moth." This illustrates that external Wind-Heat pathogens invade the Lung system of the human body through the mouth and nose, with the throat being affected first, leading to localized blockage in the throat meridians and collaterals, involvement of the fascia, and presenting as redness, swelling, and pain, thereby forming Wind-Heat milky moth. Professor Ye Gaxi believes that in clinical diagnosis and treatment, this stage mainly shows heat syndrome. Treatment usually focuses on using heat to eliminate the pathogen from the exterior, achieving the effect of "using heat to guide heat." The application of thermal stimulation via red-hot needling to the tonsillar region functions to open the Còu lǐ, leading to the expulsion of pathogenic heat through the body surface and thus accomplishing the treatment goal.

2.2. Unclog the Meridians to Transform Phlegm and Eliminate Stagnation

Some patients engage in overeating, excessive dietary intake surpassing the spleen and stomach's capacity for transformation and transportation, leading to food stagnation, which subsequently transforms into heat due to constraint. As documented in Jisheng Fang · Yanhou Men: "Overconsumption of roasted or fried foods accompanied by excessive intake of heated alcohol results in obstruction of the chest and diaphragm, preventing the pathogenic heat from dissipating and consequently causing throat disorders." Alternatively, excessive consumption of rich and greasy foods generates dampness and heat, impairing the spleen and stomach's transforming function. This leads to internal fluid retention and phlegm formation, consistent with the description in Yilin Shengmo · Volume Seven: "All

throat disorders stem from substantial heat accumulation in the lung and stomach with persistent congealed phlegm, preventing the ascent of clear qi and descent of turbid qi, thereby manifesting as phlegm-heat syndrome." Professor Wang Shizhen's compilation Chinese Medical Otolaryngology further proposes the pathogenesis of chronic tonsillitis as "phlegm arising from stagnation and phlegm arising from deficiency." Professor Ye Gaxi emphasizes that the Foot Taiyin Spleen Meridian "ascends along the throat, connects with the tongue root, and disperses beneath the tongue," while the Foot Yangming Stomach Meridian "branches from Daying (ST5), descending to Renying (ST9) and following the throat into the supraclavicular fossa." Therefore, applying thermal stimulation through cauterization therapy helps unblock the spleen and stomach meridians, promote qi and blood circulation in the throat, resolve phlegm-heat, and eliminate phlegm accumulation.

2.3. Warm the Meridians and Invigorate the Blood to Disperse Nodules and Reduce Swelling

Chronic tonsillitis that persists over time tends to cause localized qi and blood stasis. Prolonged blood stasis transforms into heat due to constraint, forming a pattern of conjoined blood stasis and heat. This manifests as persistent congestion and hardening of the tonsils, accompanied by symptoms such as sleep apnea and mouth breathing. Zhang's Treatise on General Medicine: Throat Obstruction states: "When throat obstruction persists unrelieved with purplish tongue and rough pulse, this is not solely fire, but rather blood stasis with latent heat." Professor Ye Gaxi emphasizes that treatment for this pattern primarily utilizes the warm-unblocking and dissipating effects of cauterization therapy. By warming and dredging the meridians, the stimulation of the enlarged tonsils promotes the circulation of qi and blood. This process improves local blood stasis and qi stagnation, thereby achieving the therapeutic effects of resolving masses and reducing swelling.

2.4. Warm and Tonify Kidney Yang to Strengthen the Foundation and Nurture the Vital Essence

Chronic tonsillitis, referred to as chronic Rǔ É (乳蛾, chronic tonsillitis) (乳蛾) in Traditional Chinese Medicine (TCM), predominantly arises from the incomplete resolution of acute tonsillitis, resulting in lung and kidney yin deficiency and the subsequent ascent of deficiency-fire. This pathological state interacts with residual pathogens localized in the tonsils. Factors such as fatigue or exposure to exogenous pathogens frequently precipitate acute exacerbations. Clinical presentation typically includes mild dryness, itching, and pain in the pharynx, a sensation of a foreign body, obstructive discomfort, and a documented history of recurrent episodes. Physical examination reveals tonsillar enlargement with dull erythema extending to the palatoglossal arches. Expression of purulent material from the tonsillar crypts may be observed upon compression of the anterior pillar.

Patients often report dry mouth without a corresponding desire for significant fluid intake. A characteristic diurnal pattern is noted, with symptoms being mild in the morning, progressively worsening in the afternoon, and peaking at dusk. Accompanying tongue and pulse findings commonly include a red tongue with reduced moisture and a thready, rapid pulse. From a TCM pattern differentiation perspective, the condition most frequently correlates with lung-kidney yin deficiency. Professor Ye Gaxi posits that chronic tonsillitis in TCM theory falls within the domain of "deficiency-fire." The fundamental pathogenesis involves either an insufficiency of yang qi or a state of yin deficiency leading to floating yang. As the Foot Shaoyin Kidney Meridian courses through the throat and terminates at the root of the tongue, cauterization therapy is applied to warm and supplement yang qi, consolidate the foundational constitution, and foster primordial qi. This therapeutic approach addresses the root pathogenesis of deficiency-fire. Professor Ye Gaxi posits that chronic tonsillitis in TCM theory falls within the domain of "deficiency-fire." The fundamental pathogenesis involves either an insufficiency of yang qi or a state of yin deficiency leading to floating yang. As the Foot Shaoyin Kidney Meridian courses through the throat and terminates at the root of the tongue, cauterization therapy is applied to warm and supplement yang qi, consolidate the foundational constitution, and foster primordial qi. This therapeutic approach addresses the root pathogenesis of deficiency-fire.

3. Improvement of Medical Devices

3.1. Invent a Scald-Proof Moxibustion Device

To address the limitations of conventional cauterization instruments, such as limited specifications and overheating during prolonged procedures, we developed a heat-shielded cauterization device under the guidance of Professor Ye Gaxi. This device has been granted a Chinese national patent (Patent No.: ZL201720686338.6) and approved for clinical use following review by the hospital ethics committee. The device primarily consists of a heat-insulated needle handle, a middle tubular segment, and a fixation knob with a through-hole. The end of the middle segment connected to the fixation knob is equipped with a needle-clamping bar. At the tip of this bar, a needle socket and a straight slot are designed to accommodate the needle tip, with the slot communicating directly with the socket. When the fixation knob is tightened onto the middle segment, it compresses the clamping blocks, causing them to close to varying degrees, thereby securing needle tips of different specifications. The operator holds and manipulates the device externally via the insulated handle. Due to the considerable distance between the handle and the needle tip, coupled with the use of low-thermal-conductivity medical stainless steel, this design prevents the excessive heat transfer that traditionally caused shorter fire needles to become too hot to hold. This innovation thus prevents handling discomfort and enhances operational stability, thereby reducing treatment risks. Furthermore, the device supports interchangeable cautery needle tips in various specifications. Depending on the acupuncture site and required stimulation

intensity, operators may select tips of different lengths and thicknesses. Each unit can be reused multiple times for the same patient, streamlining operational steps, improving workflow efficiency, and conserving medical resources. Additional advantages include a straightforward operation process, proven safety and efficacy, minimal pain and absence of bleeding during treatment, and low cost, making it a practical and accessible option for clinical practice.

3.2. Invent an Anti-Scald Oral Endoscope

During treatment, patients often develop avoidance behaviors due to fear of the fire needle, which may lead to accidental burns of oral tissues. To prevent such adverse events, Professor Ye Gaxi invented a tonsil endoscopy device (Patent No.: ZL202221578381.8). This device comprises an oral support unit and an illumination system. The oral support unit includes a transparent support cylinder and an operating handle. The upper end of the support cylinder is fixedly connected to the handle, while the sidewall terminal features an interlayer housing the illumination system, allowing light to penetrate the transparent layer and illuminate the oral cavity. One end of the operating handle is equipped with a connecting ring matching the support cylinder, and the other end is designed as a plate-like structure with an internal cavity to accommodate the power supply of the illumination system. The top surface of this end incorporates a switch to control the power supply. The device also includes an elastic sleeve to protect oral tissues. The sleeve is connected to the lower end of the oral support unit via a sleeving mechanism. When mounted, the elastic sleeve remains in a contracted state to prevent displacement. During cauterization procedures, this device enables single-operator use, providing sufficient exposure of the oral cavity and effectively preventing thermal injury to oral tissues and organs.

4. Case Example

MaXX, female, 8 years old, first consultation on November 5, 2024.

Chief Complaint: Recurrent throat itching and a sensation of a foreign body for more than three years.

Present Illness History: Three years ago, the patient developed fever and sore throat following exposure to cold. The family self-administered medications including "Cefixime Granules, Yanbian Granules, and Ibuprofen Suspension," after which the fever and sore throat resolved. However, tonsillar enlargement persisted, accompanied by throat itching and a foreign body sensation, as well as obvious mouth breathing and snoring during sleep. Over the past three years, the patient has experienced tonsillitis episodes 4 - 5 times annually, each accompanied by fever lasting approximately five days, with peak body temperature reaching around 40˚C. During acute episodes, purulent exudates were observed on the tonsils, and complete blood count indicated leukocytosis exceeding 20.0×10^{12}/L. Symptoms such as throat itching, foreign body sensation, mouth breathing during sleep, and pronounced snoring have persisted, significantly impacting the patient

and family, prompting further evaluation in our department. Current Findings: The patient is alert and in fair spirits. Mild dryness, itching, and pain in the throat are reported, along with a foreign body sensation. Tonsils are enlarged with dark redness extending to the palatoglossal arches. The patient experiences dry mouth without desire for excessive fluid intake, poor appetite, disturbed sleep, and dry stool with normal urination. Tongue and Pulse Examination: The tongue appears red with reduced moisture; the pulse is thready and rapid.

Physical Examination: Body temperature: 36.3˚C. The patient is alert and in fair general condition. Pharyngeal and tonsillar hyperemia is observed, with tonsils enlarged to grade III. No purulent exudate is detected.

Past Medical History: The patient has experienced recurrent tonsillitis over the past three years, with 4 - 5 episodes annually.

Diagnoses: TCM Diagnosis: Chronic Rupi (Tonsillitis) (Lung-Kidney Yin Deficiency Syndrome) Western Medicine Diagnosis: Chronic Tonsillitis.

Therapeutic Principle: Warm and tonify kidney yang, disperse binds, and reduce swelling.

Intervention: Cauterization therapy.

Procedure: After obtaining informed consent from the patient or their guardian, the patient is positioned upright with the head tilted backward and the mouth fully open. An appropriately sized cauterization needle tip is selected. The physician holds the self-developed oral speculum in one hand to position it in the patient's oral cavity, fully exposing the tonsils. As shown in **Figure 1**. With the other hand, the specially designed cauterization device is heated until red-hot in the outer flame of an alcohol lamp. As shown in **Figure 2**. Through the lumen of the oral speculum, the heated tip is applied swiftly and accurately to the hypertrophic tonsil tissue. Each tonsil receives 5 - 10 cauterizations per session. Treatment is administered once weekly, with the timing of subsequent sessions determined by the detachment of the eschar formed in the previous session. Each subsequent cauterization should expand radially from the center of the prior treatment area. The procedure is continued until the tonsils are progressively reduced in size and the surface becomes smooth. Generally, grade III tonsillar hypertrophy requires 25 - 30 sessions, while grade II hypertrophy necessitates 15 - 20 sessions.

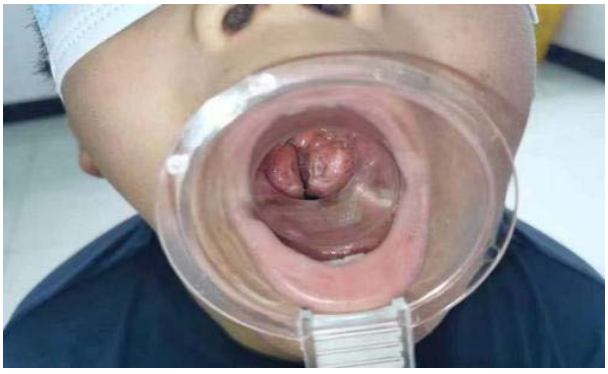

Figure 1. The oral endoscope fully exposes the tonsils.

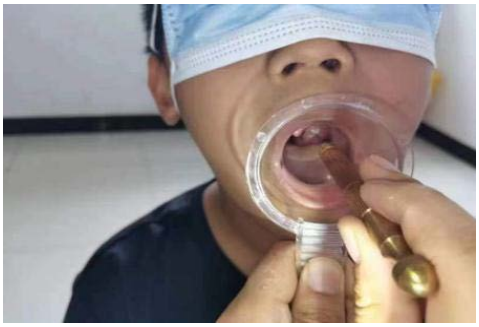

Figure 2. Administering moxibustion treatment (the child wears a mask and has eyes covered to prevent avoidance due to fear).

Operational Precautions: Patients should maintain a fasting state (no food or water) for 2 hours prior to the procedure to prevent vomiting and aspiration during treatment. After cauterization, the patient should gargle 2 - 3 times with 100 mL/bottle of sodium chloride injection. Fasting (including water intake) should be continued for 2 hours post-procedure. During the treatment period, both the patient and their family should be instructed to avoid spicy, stimulating, and greasy foods. A light diet is recommended routinely, with emphasis on increased intake of vegetables, fruits, high-protein foods, and vitamin-rich foods.

Contraindications: 1) Acute attack stage of tonsillitis; 2) Patients with bleeding tendency complicated with severe systemic diseases who are unable to tolerate treatment; 3) Acute stage of cardiac, cerebrovascular, hepatic, or renal diseases.

Second Follow-up Visit: November 15, 2024. A reduction in tonsillar hypertrophy was observed compared to the previous examination. The eschar formed during the prior treatment session had detached, and the wound site demonstrated satisfactory healing. As shown in **Figure 3**. Symptoms including pharyngeal itching, post-sleep snoring, and oral breathing have improved. Cauterization therapy was repeated following the previous treatment protocol.

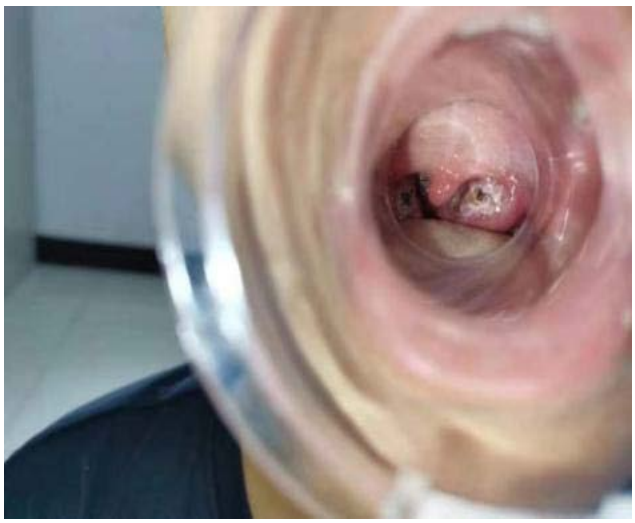

Figure 3. It shows the scab has fallen off, and both tonsils are noticeably smaller compared to before.

Third Follow-up Visit: November 25, 2024. The tonsils exhibited significant regression compared to previous observations, now measuring between grades I and II in size. As shown in **Figure 4**. Symptoms including pharyngeal foreign body sensation, snoring, and oral breathing have markedly resolved. The cauterization therapy was continued following the established protocol.

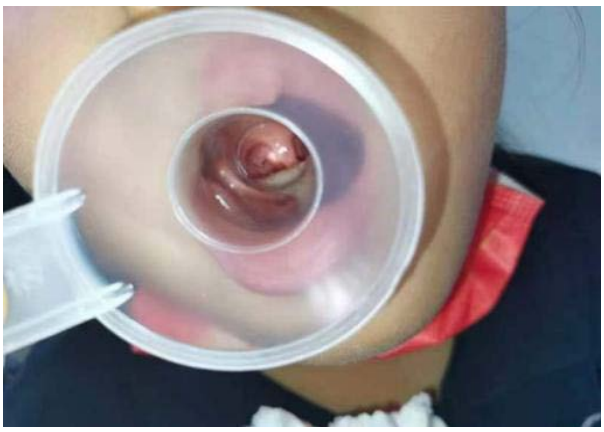

Figure 4. The surface of the tonsils has healed well, with no significant enlargement.

Fourth Follow-up Visit: The tonsils show no significant hypertrophy. Pharyngeal foreign body sensation has resolved completely, with no reported snoring or oral breathing. Treatment has been concluded. The patient was advised to return for follow-up as needed.

Remarks: This pediatric patient experienced recurrent acute tonsillitis that had not been fully resolved despite multiple prior treatments. The family had previously sought fire needle therapy at local medical institutions on several occasions, but treatment was ultimately abandoned each time due to the child's fear of the procedure. Moreover, both the child and family declined surgical intervention. For further management, the patient presented to our department. Based on clinical symptoms and signs, a diagnosis of chronic tonsillitis (lung-kidney yin deficiency pattern) was established. With the assistance of a self-developed oral speculum, cauterization therapy was performed using a specialized cauterization device. This approach effectively achieved the therapeutic goals of warming and reinforcing yang qi, consolidating the root and cultivating the source, as well as reducing swelling and resolving nodules. This method not only preserves the immunological function of the tonsils but also prevents iatrogenic injury to oral tissues during the procedure, demonstrating satisfactory clinical efficacy.

5. Remarks

The earliest descriptions of symptoms related to tonsillitis (chronic tonsillitis) can be traced back to The Inner Canon of Huangdi, which recorded terms such as "throat obstruction" (Hou Bi), "throat pain" (YI Tong), and "throat swelling" (YI Zhong). The disease name was first documented in Confucians' Duties to Their Parents (Ru Men Shi Qin). After the Ming Dynasty, numerous physicians gener-

ally agreed that the etiology and pathogenesis of Rǔ É (乳蛾, chronic tonsillitis) involved external invasion by wind-heat, upward flaring of lung and stomach fire, or excessive consumption of spicy, greasy foods, tobacco, and alcohol, leading to phlegm and stasis congealing in the throat. Contemporary TCM scholars have primarily proposed three theoretical frameworks: deficiency-stasis theory, constitutional deficiency with phlegm congelation theory, and phlegm-heat interaction theory. In terms of treatment, Rǔ É (乳蛾, chronic tonsillitis) can be managed according to the principles for pathological masses, as articulated in Jingyue's Complete Works (Jing Yue quan Shu) · Accumulations (Ji Ju): "As for the treatment of accumulations, the classics have already provided comprehensive guidance. To summarize the essentials, there are no more than four methods: attacking, eliminating, dispersing, and supplementing."

As early as the Tang Dynasty, the renowned physician Sun Simiao provided a detailed description in Supplement to the Essential Prescriptions Worth a Thousand Gold of using cauterization to treat pharyngeal masses, including enlarged tonsils: "For treating an elongated swollen mass in the throat that impedes swallowing: first insert a bamboo tube into the mouth, then apply a heated iron rod through the tube. The condition resolves after several repetitions." The "elongated swollen mass in the throat" described here refers to hypertrophic tonsil tissue, while "impedes swallowing" likely indicates dysphagia or a pharyngeal foreign body sensation. The bamboo tube served both to adequately expose the tonsils or pharyngeal mass and prevent accidental burns to other oral structures during the procedure. The Orthodox Lineage of External Medicine further emphasized: "If bloodletting is omitted for throat obstruction... or needling and cauterization are omitted for nipple moth (tonsillitis), these are not standard treatments." This established cauterization as a fundamental and primary treatment for tonsillitis. Modern research continues to validate this ancient technique. Li Lingjuan *et al.* [8] conducted a meta-analysis involving 854 patients with chronic tonsillitis, confirming that traditional cauterization therapy demonstrates significant clinical efficacy with minimal adverse effects. Leng Hui *et al.* [9] further investigated this method through modern medical perspectives, conducting extensive studies on the histological and gene-immunological mechanisms underlying cauterization therapy for chronic tonsillitis. These studies collectively substantiate the notable therapeutic effect of cauterization in managing chronic tonsillitis.

Professor Ye Gaxi posits that cauterization therapy embodies the therapeutic functions of penetrating, attacking, resolving, dispersing, and tonifying. On one hand, its warming properties assist Yang, activate channel Qi, and thereby unblock meridians, promote Qi and blood circulation, and reduce masses and nodules. On the other hand, it facilitates heat conduction and redirection, supports Yang in transforming Qi, regulates Qi movement, promotes fluid metabolism, and resolves congealed phlegm-dampness pathogens. As Gong Juzhong of the Ming Dynasty elucidated in Red furnace point snow: "Cold diseases dispelled by fire are like melting ice under the blazing sun, illustrating the principle of cold

dissolving with warmth. Heat diseases relieved by fire resemble extreme heat turning cool, embodying the theory of 'dispersing constrained fire'. Deficient conditions strengthened by fire mirror steam rising when fire meets ice, demonstrating the principle of warming and tonifying with heat. Excess patterns resolved by fire function as fire consumes matter, reflecting the method of 'draining excess'. Phlegm dissolved by fire occurs because heat promotes Qi movement and restores fluid circulation." Through its ability to conduct heat, promote Qi and blood flow, reduce swelling, and alleviate pain, cauterization therapy restores unimpeded circulation in the stomach, spleen, and kidney meridians. This enables the elimination of phlegm and stasis, leading to the reduction of tonsillar hypertrophy, resolution of pain, and restoration of airway patency.

The tonsil cauterization device employed in this therapy is a versatile instrument featuring multiple interchangeable cautery tips of varied specifications. Depending on the anatomical site and required stimulation intensity, operators may select tips of different lengths and diameters. Designed for repeated use on individual patients, the device enhances workflow efficiency and optimizes resource utilization. Additional advantages include operational simplicity, demonstrated safety and efficacy, minimal procedural pain, absence of bleeding, and low treatment cost. Furthermore, the procedure is performed with an integrated oral speculum, which comprises an oral support unit (including a support cylinder and handle) and an illumination system. This setup enables single-operator use during cauterization, ensuring adequate visualization of the oral cavity while preventing iatrogenic thermal injury to adjacent tissues. Given its satisfactory clinical efficacy, this therapeutic approach warrants further procedural refinement and broader clinical implementation.

The operator holds and manipulates the device externally via the insulated handle. Due to the considerable distance between the handle and the needle tip, coupled with the use of low-thermal-conductivity medical stainless steel, this design prevents the excessive heat transfer that traditionally caused shorter fire needles to become too hot to hold. This innovation thus prevents handling discomfort and enhances operational stability, thereby reducing treatment risks.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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