

Advances in Traditional Chinese Medicine Nursing Techniques for Pediatric Adenoid Hypertrophy

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Abstract: This review examines the current clinical application of traditional Chinese nursing techniques in children with adenoid hypertrophy, including herbal medicine nebulisation, nasal drops, steam inhalation, massage, topical application, ear acupuncture, cupping, and moxibustion. These techniques offer advantages such as good efficacy, diversity, minimal adverse reactions, and non-invasiveness, effectively avoiding the risks and adverse reactions associated with Western surgical procedures. The aim is to provide a reference for effectively treating pediatric adenoid hypertrophy, reducing recurrence rates, avoiding postoperative complications, and improving the quality of life for affected children.

Keywords: Adenoid Hypertrophy; Traditional Chinese Medicine Nursing Techniques; Review

1. Introduction

The adenoid is a lymphoid tissue located at the junction of the top and back walls of the nasopharynx between the two pharyngeal recesses. It is a part of the human immune system and is also known as the pharyngeal tonsil or proliferative tissue. The adenoid communicates with the nasal cavity through the posterior nares at the front, with the occipital bone and eustachian tube on either side, and connects downward to the pharynx and trachea ^[1]. Under physiological conditions, the adenoids are already developed at birth, with particularly active growth between the ages of 2 and 6. They generally reach their maximum size between the ages of 6 and 7, begin to shrink after the age of 10, and disappear during puberty ^[2]. If the adenoids undergo pathological hyperplasia and cause a series of symptoms, this is referred to as adenoid hypertrophy (AH) ^[3]. The clinical manifestations of AH mainly include mouth breathing during sleep, snoring, and nasal congestion. If the condition persists for a long time, it may affect the development of the child's facial bones and teeth, leading to an adenoid facial appearance, and may even result in obstructive sleep apnoea syndrome ^[4]. Studies have shown that the prevalence of AH among children and adolescents is approximately 46.42%, with an upward trend in incidence rates ^[5]. If left untreated or inadequately managed, it can lead to systemic symptoms such as malnutrition, developmental delays, slowed reactions, inattention, irritability, night terrors, teeth grinding, and enuresis, significantly impacting the child's physical and mental health ^[6]. Therefore, timely, effective, and appropriate treatment is of extreme importance for children with AH. In recent years, the therapeutic effects of traditional Chinese medicine (TCM) nursing techniques in the treatment of AH in children have gradually gained recognition, effectively alleviating clinical symptoms while offering the advantages of being simple, convenient, effective, and cost-effective, making them worthy of promotion ^[7]. Therefore, this paper aims to systematically review the current application of TCM nursing techniques in the treatment of AH, objectively analyze the existing issues and challenges, with the goal of promoting the standardization and scientific development of TCM nursing techniques in the treatment of AH, and providing patients with higher-quality, personalized nursing services.

2. Current application of TCM nursing techniques in adenoid hypertrophy

2.1 Nasal therapy

TCM atomization, nasal drops, fumigation, lavage therapy belong to the category of TCM nasal therapy, acting on the nasal cavity to play a therapeutic role. Ultrasonic atomization makes the TCM

extract enter the nasal cavity in the form of aerosol. The aerosol temperature is generally about 40 °, which is conducive to promoting local capillary dilation. Nasal drops, fumigation and lavage therapy can be the active ingredients and volatile oil contained in Chinese materia medica through the mucous membrane and adenoids, more directly acting on the lesion. Wang Lingli et al.^[8] found that the use of a herbal medicine nasal spray for the treatment of severe AH in children can improve clinical symptoms and quality of life to a certain extent, with better efficacy than dexamethasone nasal spray, and no adverse reactions were observed. Yang Li et al.^[9] conducted a before-and-after observational study on 49 pediatric patients to investigate the effects of TCM external treatments for nasal disorders on the size of the adenoid and changes in AH. They found that the use of medicinal steam inhalation and the collection of distilled liquid for nasal drops as external treatments could reduce the size of the adenoid in children with AH, improve related clinical symptoms, and alleviate nocturnal hypoxia caused by sleep apnoea. The overall efficacy rate was 83.7%. Chen Qifeng^[10] used three types of treatments—nasal inhalation, nasal drops, and oral medicine—based on the causes and development of AH in children. Adhering to the principle of clearing heat, detoxifying, and unblocking the orifices, this approach effectively improved AH and its associated clinical symptoms, yielding significant results. These studies indicate that nasal therapy is highly effective in treating AH. It avoids the first-pass effect on the liver, increases the drug concentration at the site of the lesion, and keeps the respiratory mucosa moist, thereby further enhancing therapeutic efficacy.

2.2 Manual techniques

2.2.1 Gua Sha

Gua Sha is a method of preventing and treating diseases by scraping the body surface using manual techniques based on TCM meridian and acupoint theory. Zhang Yuan et al.^[11] added the Gua Sha prick method on the basis of oral Chinese materia medica treatment, that is, puncturing the tip above the pinna of the child's auricle at the same time as Gua Sha treatment to make it bleed 1~3 drops. The results showed significant clinical efficacy; the child's symptoms were alleviated, the recovery was fast, and the quality of life was improved, which was better than that of the conventional treatment group of Western medicine, and there were few adverse reactions, a low recurrence rate, safety and reliability. Xu Hui^[12] used tiger symbol copper scrapers to treat children with AH and lung and stomach heat syndrome with remarkable results. After four courses of treatment, clinical symptoms and signs were improved, and the treatment was well accepted by the children and highly safe. Ouyang et al.^[13] used a combination of phlegm-resolving and nodule-dissolving decoction and the Gua Sha prick method to treat children with AH as the observation group and compared it with a conventional Western medicine group. The results showed that the combination of phlegm-resolving and nodule-dissolving decoction and the Gua Sha prick method was significantly effective in treating AH in children, promoting the relief of main symptoms, reducing inflammatory reactions, and alleviating AH in a short period of time. Gua Sha therapy can regulate qi and blood circulation, accelerate the elimination of lumps, and when applied locally to the affected area, help clear the throat and eliminate heat toxins. The Gua Sha prick method can stimulate the functions of acupoints and meridians, activating the body's energy in children, thereby improving physical condition through the body's own capabilities and achieving yin-yang balance between internal organs and tissues. However, the Gua Sha prick method is relatively painful, so clinical use should consider the child's tolerance.

2.2.2 Acupressure

Acupressure is an external treatment method that stimulates specific acupoints through techniques such as pressing, kneading, tapping and pressing to achieve the effects of unblocking meridians, relieving pain, harmonising yin and yang, and alleviating disease symptoms. Xian Liyan et al.^[14] divided 80 children with AH into a control group treated with Western medicine and an observation group treated with Western medicine plus moxibustion of the Baihui acupoint and acupoint massage of the Yingxiang acupoint. They concluded that moxibustion of the Baihui acupoint combined with acupoint massage can improve the efficacy of Western medicine treatment for AH in children, reduce TCM syndrome scores, and improve the children's sleep quality and quality of life. Liu Wenling^[15] adopted refined nursing care combined with TCM acupoint massage of the Yingxiang acupoint in children with AH after surgery. They found that this measure could effectively alleviate the children's pain while also improving their sleep quality and quality of life. The TCM symptom scores decreased significantly, effectively preventing the occurrence of complications. Liu Junjun et al.^[16] used a combination of Chinese materia medica and acupoint massage on the Yingxiang acupoint to treat AH in children. After treatment, the combination therapy was superior to both the Chinese herbal medicine-only group and the Western medicine-only group in improving symptoms such as nasal

congestion, snoring severity, mouth breathing and sleep quality, as well as night sweats, spontaneous sweating, hearing loss, slowed reactions, attention deficits, frequency of colds, and adenoid facial features. Acupoint massage therapy for treating AH in children can achieve beneficial clinical results, whether used alone or in combination with other therapies. It is well tolerated by patients and causes minimal discomfort, making it widely used in clinical practice. However, the techniques used are mostly based on experience, and there is a lack of uniform operating procedures and standards.

2.3 Press needle therapy

Press needle therapy refers to the shallow insertion of a sterile needle into the selected acupoint or painful area and leaving it in place for a period of time to produce a mild and lasting effect. Chen Guangyue et al.^[17] added acupuncture with press needle retention to conventional oral and nasal spray medications for the treatment of AH in children. The treatment involved inserting needles directly into the Yingxiang, Bitong, and Yintang acupoints, leaving the needles in place for 4 hours, and pressing the needle handles three times every 30 minutes. The total effective rate in the treatment group was 96.0%, while that in the control group was 80.0%. Xiang Bing et al.^[18] observed the effects of massage combined with press needle therapy in children with AH, while the control group received nasal spray treatment. The study found that the massage combined with press needle therapy group had better treatment outcomes than the nasal spray group in terms of pre- and post-treatment symptom scores, sleep quality, time to resolution of nasal congestion, and time to resolution of sore throat. These findings are worthy of clinical promotion. Liu Wenjing^[19] In the treatment of snoring caused by AH in children, the observation group used a combination of paediatric snoring formula and press needle therapy, while the control group received Western medicine treatment. The results showed that the combination of paediatric snoring formula and press needle therapy was more effective than Western medicine in treating AH in children. It not only alleviated clinical symptoms but also reduced the size of the adenoids, significantly improving the quality of life of children with AH. It is worth noting that although press needle therapy has a wide range of applications, the appropriate acupoints and treatment regimen should still be selected based on the characteristics of the patient's pain, the cause and mechanism of the disease, and the individual's condition when applying it clinically.

2.4 TCM external treatment methods

2.4.1 Auricular pressure beans

Auricular pressure beans is a method of preventing and treating diseases by stimulating specific points on the ear using special needles or pellets. Lü Kun et al.^[20] divided 80 children with AH into two groups. The control group received conventional Western medical treatment, while the observation group received a combination of Chinese materia medica and auricular pressure beans in addition to conventional treatment. The results showed that the combined treatment of modified Chinese materia medica and auricular pressure beans was significantly effective in treating AH in children, markedly improving clinical symptoms and nasal obstruction severity, enhancing quality of life, and outperforming Western medicine alone. Wang Saina^[21] added auricular pressure beans to paediatric massage therapy for children with AH. The results showed that adding auricular pressure beans to massage therapy significantly improved the children's nasal congestion symptoms, reduced the severity of AH, and improved clinical efficacy, thereby improving the children's quality of life without causing any adverse reactions. Auricular pressure beans is rarely used alone for the clinical treatment of AH in children, but is generally used as an adjunctive therapy.

2.4.2 Acupoint sticking therapy

Acupoint sticking therapy is a method of applying medication in a specific dosage to acupoints to stimulate them, activate meridian energy, and exert therapeutic effects. Zhao Xue et al.^[22] used a combination of Chinese materia medica and acupoint sticking therapy to treat AH in children. Compared with before treatment, the children's main symptoms and secondary symptoms improved significantly. Compared with the control group treated with Western medicine alone, the results showed that the secondary symptoms and overall effective rate were superior to those of the control group, demonstrating significant efficacy. This treatment can be used as a long-term treatment method for AH. In her thesis, Qu Shuyan^[23] observed the clinical efficacy of acupoint sticking therapy for snoring in children with AH. The results showed that the treatment had an efficacy rate of 88.24%, with only one case of recurrence after one month of follow-up. The treatment was found to be highly effective and safe for snoring caused by AH, and is worthy of promotion and application in clinical

practice. Wang Xingxin et al.^[24] observed the treatment of one case of AH in children using acupoint sticking therapy. They selected acupoints such as Feishu, Zhongfu, Bitong, Tiantu, Lianquan, Dazhui, Pishu, Weishu, and Zusanli. After three courses of treatment, the results were significant, and there was no recurrence at the six-month follow-up. This method has the advantages of being easy to perform, safe, and well-tolerated by paediatric patients. Gao Feng et al.^[25] investigated the efficacy of Chinese herbal steam therapy combined with acupoint sticking therapy for the treatment of AH. The control group received conventional Western medical treatment, while the observation group received Chinese herbal steam therapy combined with acupoint sticking therapy. Comparison of the two groups revealed that the observation group achieved better treatment outcomes. After treatment, symptoms such as nasal congestion, snoring, mouth breathing, sleep apnoea, sleep onset time, sleep duration, and sleep quality were significantly lower in the observation group compared to the control group, indicating that the combination of TCM steam therapy and acupoint sticking therapy can effectively improve symptoms in paediatric patients.

2.4.3 Moxibustion

Moxibustion is an external treatment method that uses moxa or medicinal herbs that are lit and placed on acupoints or diseased areas to burn and warm them. It uses the warmth and medicinal properties to warm and promote blood circulation, strengthen the body, and remove pathogens to prevent and treat diseases. Huo Hongmei et al.^[26] used Chinese materia medica combined with moxibustion to treat AH in children on top of Western medicine. They picked acupoints and areas on the head and face, as well as acupoints like Hegu, Lieque, and Zusanli, and used moxibustion. The results showed that the treatment group had better results than the control group, which means that moxibustion can help blood circulation, improve inflammatory responses, boost the body's immune system, and help kids recover. Bi Meifen et al.^[27] divided 120 paediatric patients into two groups: the control group received conventional Western medical treatment, while the observation group received moxibustion at the Baihui acupoint combined with Chinese materia medica treatment. The results showed that moxibustion at the Baihui acupoint combined with Chinese materia medica treatment was effective in treating adenoid hypertrophy in children, improving clinical symptoms, allergic reactions, stress responses, and exhaled nitric oxide (NO) levels, and reducing adenoid volume. This treatment is worthy of clinical promotion. In addition, the efficacy of moxibustion therapy using the Baihui acupoint for treating AH in children has also been confirmed, with a total effective rate of 89.74%. This demonstrates that moxibustion therapy using the Baihui acupoint as an adjunct treatment for AH in children can effectively control symptoms, is simple to perform, and has significant therapeutic effects, making it worthy of clinical promotion^[28]. Since moxibustion combined with other therapies (such as acupoint sticking therapy, Gua Sha, and auricular pressure beans) can enhance efficacy, it is commonly used in combination with other therapies in clinical practice. However, when using moxibustion in combination with other therapies, it is important to pay close attention to preventing adverse reactions such as burns and allergies.

3. Prospects for TCM nursing techniques in the treatment of AH in Children

3.1 TCM nursing techniques can improve many adverse symptoms of AH

Children with AH typically experience multiple local and systemic symptoms. Local symptoms include snoring during sleep, loud breathing sounds, mouth breathing, nasal congestion, and may also include ear congestion, tinnitus, nasal obstruction, and throat discomfort, among other otolaryngological or lower respiratory tract symptoms^[1,29,30]. If not treated promptly and effectively, the prolonged course of the disease may lead to systemic symptoms such as cerebral hypoxia, nutritional developmental disorders, and reflexive neurological symptoms, primarily manifested as inattention, impaired memory, learning difficulties, hyperactivity and tics, anxiety and depression, restless sleep, vivid dreams and easy awakening, enuresis, delayed growth and development, and impaired height^[6,31,32], leading to a gradual decline in quality of life. The adenoid facial appearance may also have a negative impact on the child's mental health. The results of the previous review indicate that TCM nursing techniques can alleviate the progression of adenoid hypertrophy in paediatric patients, effectively relieve symptoms in the throat and lower respiratory tract, and significantly improve the quality of life of these patients. For children who refuse Western medical invasive treatments or TCM acupuncture, or cannot tolerate oral TCM treatments, TCM external therapies can effectively alleviate local and systemic symptoms^[33], slow disease progression, and provide children with additional treatment options. Therefore, these therapies are worthy of exploration and promotion

among children with AH.

3.2 Quantitative calibration standards for appropriate TCM nursing techniques still need to be explored

Currently, TCM nursing techniques have demonstrated unique advantages in clinical application, but quantitative calibration standards for these techniques are still in the early stages of exploration. The therapeutic effects of each appropriate TCM nursing technique vary significantly depending on the choice of drug formulation, acupoint selection, and meridian route. Taking acupoint drug delivery techniques as an example, methods such as acupoint sticking therapy and Chinese medicinal soaking and compressing therapy rely on skin penetration for drug absorption. Therefore, factors such as drug formulation, application duration, drug penetration enhancers, and physical penetration methods all influence the efficiency of transdermal drug absorption and the ultimate therapeutic efficacy^[34]. The efficacy of moxibustion primarily stems from thermal stimulation, but its mechanism of action is complex, with numerous influencing factors. Differences in moxibustion materials, choice of moxibustion techniques (e.g., suspension moxibustion, Indirect moxibustion, scar moxibustion), quantitative indicators (e.g., temperature, area, duration/dose, frequency, treatment course), the patient's perception of moxibustion sensations, and the specific acupoint locations where moxibustion is applied are all important factors influencing moxibustion efficacy^[35]. A review of existing literature reveals that various treatment protocols for AH using TCM nursing techniques each have their own unique characteristics; However, systematic studies investigating the relationship between the quantity and efficacy of these techniques remain relatively scarce.

Notably, some scholars have employed scientific methods such as randomised controlled trials and literature meta-regression analyses in studies on the treatment of rheumatoid arthritis^[36] and cervical vertigo^[37], providing in-depth analyses of the association between the frequency of moxibustion and acupuncture procedures and treatment outcomes, thereby offering evidence-based medical evidence to support the standardised application of these techniques. Based on the current situation, future research should involve the design of rigorous and scientific research protocols to systematically investigate the efficacy of TCM nursing techniques in treating AH under different application conditions. By clearly defining the optimal drug formulations, acupoint combinations, operational parameters, and treatment cycles for each technique, this research will provide a solid and reliable basis for establishing standardised protocols for the use of appropriate TCM nursing techniques in treating AH, thereby promoting the standardised development of their clinical application.

3.3 Recommend the rational combination of multiple technologies and improve relevant clinical research

In current clinical practice, comprehensive therapies combining multiple technologies have been widely applied and explored for the treatment of AH. The combination of Chinese materia medica and external treatments or multiple external treatments for AH has proven to be highly effective and safe, and has gradually become a new trend in clinical treatment. Several studies^[38-40] on children with adenoid hypertrophy have described that the use of multiple techniques in combination can effectively accelerate the relief of symptoms, significantly improve prognosis, help children recover from the disease sooner, and enhance their acceptance and cooperation with subsequent treatment. Another study^[22] showed that the combination of oral Xiao-Xian decoction and acupoint sticking therapy is more effective than monotherapy in improving the symptoms of AH in children. The combined intervention produces a synergistic effect, further enhancing the improvement of disease symptoms. However, a review of existing literature on AH treatment reveals that most studies use conventional care or conventional treatment as the control group, and there is a lack of in-depth and clear research comparing the efficacy of single techniques versus combined intervention therapies. Additionally, there is a scarcity of research describing the interactions and synergistic effects between different techniques, making it difficult to clearly elucidate the underlying mechanisms by which combined therapies exert their advantages. Therefore, further data and research are needed to clarify the advantages of combined intervention therapies. Future researchers should focus on improving study designs, strictly adhering to ethical guidelines, and actively conducting high-quality clinical studies to provide more scientific and rigorous treatment protocols for the clinical management of AH.

4. Conclusion

TCM nursing techniques for treating AH focus on the coordinated regulation of qi and internal organs, effectively improving various symptoms in paediatric patients. External treatment methods can, to a certain extent, avoid the limitations of oral medication and are worth promoting among paediatric patients with AH. However, TCM nursing techniques currently face limitations in clinical application and research. The dose-response relationships for various techniques have not yet been standardized. Although combined therapies using multiple techniques have been implemented in clinical settings and shown initial efficacy, the specific mechanisms underlying synergistic effects between different techniques remain unclear, and there is insufficient comparative data to support the therapeutic advantages of combined therapies over single techniques. In summary, in order to further promote the standardization and scientific development of TCM nursing techniques in the treatment of AH, it is imperative to conduct more high-quality clinical research and in-depth exploration, thereby providing a solid basis for the formulation of standardized treatment protocols.

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