

Discussing the Treatment of Pediatric Cough from the Perspective of the Liver

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Abstract: Cough is the most common pulmonary disease in children. Historically, medical practitioners have often approached pediatric cough from the perspective of the lung and spleen, employing treatments such as disseminating lung qi to stop coughing, clearing the lung to dissolve phlegm, and strengthening the spleen to eliminate accumulation. However, clinical practice reveals a close relationship between pediatric cough and the liver. From the perspective of traditional Chinese medicine theory, whether considering the circulation of meridians or the interrelationship between organs, the liver and lung share a close connection. Additionally, the physiological characteristics of children often include an excess of heart and liver energy and a deficiency in lung, spleen, and kidney energy. Therefore, an excess of liver qi is also an important factor in the development of pediatric cough. Consequently, this paper aims to discuss the impact of liver physiological dysfunction on pediatric cough, summarize the theoretical basis and medicinal practices of treating pediatric cough from the perspective of the liver by past practitioners, and refine the diagnostic and treatment approach for pediatric cough, further leveraging the advantages of traditional Chinese medicine in pediatrics.

Keywords: Pediatric Cough; Treatment from the Liver Perspective; Liver Cough; Liver Clearing Method.

1. Introduction

Cough is one of the common pulmonary diseases in children, occurring throughout the year but more frequently during the climate changes of spring and winter. It can occur at any age but is more prevalent among infants and preschool children. If not treated correctly, it often becomes protracted and difficult to cure. Historically, medical practitioners have discussed this disease extensively, mainly focusing on the lungs (Fei) and spleen (Pi) for treatment, often employing methods like disseminating lung qi (Xuan Fei Zhi Ke) to stop coughing, clearing the lung (Qing Fei Hua Tan) to dissolve phlegm, and promoting digestion (Xiao Shi Dao Zhi) to relieve stagnation. However, as early in the Huang Di Nei Jing (Inner Canon of the Yellow Emperor), it was noted that "all five zang organs and six fu organs can cause cough, not just the lungs." Clinically, a close relationship between pediatric cough and the liver (Gan) has also been observed. To further clarify the relationship between pediatric cough and the liver, this paper will refine the diagnostic and treatment approach for pediatric cough from three aspects: theoretical analysis, historical medical discussions, and prescription medication.

2. The Theoretical Basis for Treating Pediatric Cough from the Perspective of the Liver (Cong Gan Lun Zhi Xiao Er Ke Sou)

2.1 Connection through Meridians (Jing Luo Xiang Lian)

Ling Shu - Jing Mai states: "The liver channel is the Foot Jue Yin meridian (Zu Jue Yin Jing)... belonging to the liver (Gan), connecting to the gallbladder (Dan), ascending through the diaphragm, spreading over the ribs and sides, following the throat... ascending into the skull. Its branches, diverging from the liver, penetrate the diaphragm, and ascend to the lungs (Fei)." The connection through meridians illustrates the material basis for the relationship between the liver and lungs.

2.2 Governing the Ascending and Descending of Qi (Gong

Si Qi Ji Sheng Jiang)

The liver (Gan) is rigid and mainly manages dispersion and ascension, while the lung (Fei) is delicate and primarily handles descending. The proper ascension of the liver and the proper descending of the lungs are crucial for the ascending and descending movements of the body's Qi. Ye Tianshi noted: "The body's Qi mechanism complies with nature, the liver ascends from the left, and the lungs descend from the right. When the ascension and descent are appropriate, the Qi mechanism is smooth." The lungs govern the body's Qi, and the liver governs the body's blood. Thus, the liver and lungs relate to the entire body's Qi and blood movement.

2.3 The Five Elements and their Interactions (Wu Xing Sheng Ke Zhi Hua)

According to the theory of the Five Elements (Wu Xing), the lung belongs to metal (Jin), and the liver belongs to wood (Mu). In a normal physiological state, metal restrains wood, and the lungs can restrict the liver. When liver fire (Gan Huo) is excessive, or lung qi is weak, the liver can overpower the lung. Excessive liver fire can afflict the lung metal, leading to cough. Wang Ang expressed: "The liver is like the general's office. When liver fire ascends inversely, it can scorch the heart (Xin) and lungs, hence coughing and spitting blood."

2.4 Physiological Characteristics of Children (Xiao Er Sheng Li Te Dian)

Children have delicate organs and tissues, incomplete physical and qi development, vigorous vitality, and rapid growth. The pathological characteristic of children is that the liver (Gan) often has an excess, and the spleen (Pi) often has a deficiency. The common excess in children's liver refers to the initial life stage of a child, like a budding tree, representing the growing qi of Shao Yang. It gradually strengthens, hence the excess. This excess of the liver is an important driving force for growth and development during childhood. Excessive can lead to over-excitement, affecting the normal physiological

functions of the lungs (Fei), and vice versa. In "Yu Ying Jia Mi - Wu Zang Zheng Zhi Zong Lun," Wan Quan clearly pointed out: "The liver belongs to wood (Mu), thriving in spring. Spring brings the qi of Shao Yang, the reason for all things to grow. Newborns are like buds, receiving the initial qi, their qi is flourishing, also the qi of Shao Yang growing and not yet ceasing, hence the liver has an excess. This excess is the natural abundance of Yang." This vividly explains the liver's dominant role in the growth and development of children. If affected by the six excesses (Liu Yin) externally, or by emotional disturbances and improper diet internally, it's easy to transform into heat, manifesting as fever, irritability, and easy anger, signs of excessive liver (Gan Kang). In severe cases, it can transform into fire generating wind, with wind and fire fanning each other, stirring up liver wind, leading to symptoms like panic, convulsions, and other wind movement syndromes (Feng Dong Zheng Hou). Therefore, the common excess in children's liver, along with worry, depression, anger, and unfulfilled emotions, can easily lead to the liver failing to disperse and smooth out, resulting in liver qi stagnation (Gan Qi Yu Jie), qi stagnation transforming into fire, and the fire disturbing upwards along the meridians, attacking the lungs. The evil of fire heat can easily scorch lung yin (Fei Yin), with lung yin depletion, the lung loses its nourishment, dissemination, and descending are disrupted, causing a cough that is difficult to cure over time.

3. Historical Discussions on Liver Cough by Medical Practitioners

3.1 Huang Di Nei Jing Era

In "Su Wen - Cough Discussion," it is proposed that "all five zang organs and six fu organs can cause cough, not just the lungs," and the characteristics of cough related to each organ are discussed. It's stated, "The condition of liver cough (Gan Ke), is that coughing causes pain below the ribs, and in severe cases, one cannot turn their body; turning causes fullness below the ribs." This description, although not explicitly stating that liver fire attacking the lungs is the pathogenesis of liver cough, depicts the main manifestations of liver cough as coughing and pain under the ribs, which are also primary symptoms of liver fire attacking the lungs. "Nan Jing - Fifty-Six Difficult Issues" says: "Liver accumulations, called Fei Qi, are located under the left rib, like an overturned cup, with a head and feet. If not cured for a long time, it causes coughing, malaria, and year-long ailments. It happens on Jiawu and Jiwei days of late summer. Why is this? Lung disease transfers to the liver, the liver should transfer to the spleen, the spleen dominates in late summer, and the dominating does not accept evils, the liver wants to return to the lung, but the lung refuses, hence the accumulation remains," indicating the pathological evolution from liver disease to lung disease.

3.2 Qin-Han Period

In the "Shang Han Lun," the Xiao Chai Hu Tang prescription for certain symptoms includes coughing, which can be considered a manifestation of liver and gallbladder disharmony attacking the lungs. As stated in "Shang Han Lun - Discussion on Tai Yang Disease Pulse Syndrome and Treatment": "On the fifth or sixth day of a cold, alternating

fever and chills, chest and rib discomfort, reticence, disinclination to eat or drink, agitation with a desire to vomit, or chest discomfort without vomiting, or thirst, or abdominal pain, or stiffness and hardness under the ribs, or palpitations under the heart, difficult urination, or absence of thirst, slight fever on the body, or coughing, Xiao Chai Hu Tang is the primary treatment."

3.3 Sui-Tang Period

Chao Yuanfang's famous medical book "Zhu Bing Yuan Hou Lun" from the Sui Dynasty recognized that all five zang organs and six fu organs can cause cough and discussed the symptoms of liver cough. "Zhu Bing Yuan Hou Lun - Cough Symptoms" says: "In spring, the liver is first affected, the condition of liver cough, coughing causes pain below the ribs, in severe cases, one cannot turn to the side, fullness below both sides." Sun Simiao's "Qian Jin Yao Fang" also mentioned liver cough and further discussed its treatment: "Cold cough, branch cough, liver cough, prick Foot Liverying (Zu Tai Chong)." "Wai Tai Mi Yao" combined pulse diagnosis for prognosis: "Jue Yin cough, coughing pulling at the base of the tongue is so. Diagnose the right hand's inch mouth qi mouth before the pulse, the hand Yang Ming channel, if the pulse is floating, it indicates Yang reality; Yang reality, the disease is abdominal fullness, prone to panting and coughing, the pulse faint and large, is liver impediment, cough pulling at the lower abdomen. Coughing with floating large pulse indicates life, deep small hidden pulse indicates death."

3.4 Song Dynasty

Qian Yi discussed the diseases governed by the five zang organs and stated clearly that "the liver governs wind." Children lack the seven emotions and six desires, so liver depression seen in adults is rare in children. The main cause of liver excess syndrome in children is external evil qi turning into internal heat, stirring liver wind. Thus, the treatment for such liver excess syndrome in children is primarily calming and cooling. Qian Yi's Da Qing Gao is specifically aimed at this disease. The prescription uses ingredients like Qing Dai and Zhu Sha (nowadays replaced by Long Gu, Mu Li, etc.) to cool and calm the liver, preventing the liver from generating wind. The main treatment for liver deficiency in children, often due to insufficient congenital endowment and weak liver body, is Qian Yi's modified Liu Wei Di Huang Wan, nourishing water to envelop wood, supplementing both mother and child, slowly planning the treatment.

3.5 Jin-Yuan Period

The Jin-Yuan period started to see descriptions of "fire flourishing punishing metal," considered a rudimentary form of "liver fire attacking the lung." The "fire" generally refers to the evil heat from stagnation turning into heat, scorching the lungs, but already including the beginnings of liver fire. Zhu Danxi in "Dan Xi Xin Fa" categorized cough into wind-cold, phlegm-fluid, fire stagnation, labor cough, and lung distension. He pointed out that cough accompanied by pain under the ribs should be treated by dispersing liver qi, using Qing Pi with phlegm medicine, for substantial cases use Bai Jie Zi and others; and proposed treating cough and rib pain with Er Chen Tang adding Nan Xing, Xiang Fu, Qing Pi, Qing

Dai with ginger juice; accompanying dizziness and noise as symptoms indicate fire stirring phlegm, treated with Er Chen Tang adding Shan Zhi Zi, Huang Lian, Huang Qin; primarily burping and sour swallowing as symptoms indicate food stagnation with heat, fire qi moving upward, with Huang Qin as the monarch, Nan Xing, Ban Xia as the ministers, and Ju Hong as the envoy, add more Qing Dai for more heat. He provided a detailed description of treating cough and other symptoms caused by liver fire, liver heat, and liver depression.

3.6 Ming-Qing Period

The Ming Dynasty provided a more detailed discussion on the pathogenesis and treatment of liver cough. For instance, Wang Lun's "Ming Yi Za Zhu" believed that in spring, liver qi ascends, and it's appropriate to use methods to moisten the lung and suppress the liver to treat cough. Wu Kun in "Yi Fang Kao" proposed "liver transferring heat to the lung causing cough" and treated it with Dang Gui Lu Hui Wan. He further explained, "Coughing with pain in the ribs, often angry pulse string, the disease originates from the liver. The liver, the general's office, often has excess qi, and excess qi is fire, hence it should be purged. This prescription, Qin, Lian, Zhi, Bai, Cao Long, Qing Dai, Da Huang, all can purge fire, but not necessarily enter the liver; liver qi is foul, the medicines obtain Lu Hui, She Xiang's foulness, with similar qi seeking each other, can enter and calm the liver." This not only discusses the pathogenesis of liver depression turning into fire, liver fire attacking the lungs causing cough, but also proposes corresponding treatment. "Lin Zheng Zhi Nan Yi An" states: "Human Qi mechanism complies with nature, lung qi descends from the right, liver qi ascends from the left, lung disease's main descending day is delayed, liver transverse governing ascending day is fast, choking cough not yet ceased, is the sign of liver and gallbladder wood rebelling and punishing metal." It also states: "Liver yang transforming into wind, constantly disturbing without rest, leading to incessant choking without a period of peace." During this period, medical practitioners believed that "fire flourishing punishing metal" causing disease was not only limited to coughing but also included symptoms like asthma, spitting blood, and pulmonary tuberculosis.

4. Differentiation of Pediatric Liver Cough

4.1 Liver Qi Stagnation Type (Gan Yu Qi Zhi Xing)

The main symptoms include cough, itchy throat, and a bitter taste in the mouth, accompanied by chest and rib distension, frequent sighing, a thin white tongue coating, and a taut and slippery pulse. The treatment focuses on soothing the liver to relieve depression, regulating qi, and transforming phlegm. Xiao Chai Hu Tang (Minor Bupleurum Decoction) combined with Chen Pi (Tangerine Peel), Chao Zhi Qiao (Fried Bitter Orange), Mi Zi Yuan (Honey Scape), Mi Bai Bu (Honey Stemonia), Mi Dong Hua (Honey Winter Flower), and Chao Ku Xing Ren (Fried Bitter Almond) is used. Xiao Chai Hu Tang harmonizes Shao Yang and soothes liver and gallbladder qi. Additional ingredients like Chen Pi and Chao Zhi Qiao aid in qi regulation, while Mi Zi Yuan, Mi Bai Bu, Mi Dong Hua, and Chao Ku Xing Ren enhance its cough-stopping and phlegm-transforming effects. Lin Peiqin

also mentioned, "Seasonally speaking, for springtime coughs due to rising liver qi, treatments should also include descending methods, using herbs like Qian Hu (Hogfennel Root), Xing Ren (Apricot Kernel), Hai Fu Shi (Pumice Stone), Gua Lou Ren (Trichosanthes Seed), etc., that transform phlegm and descend qi."

4.2 Liver Fire Attacking Lung Type (Gan Huo Fan Fei Xing)

In children, the liver often has an excess and easily transforms yang into heat. Wood fire punishes metal, transforming fluids into phlegm, leading to persistent coughs, often seen as spasmodic coughs or sudden bouts of coughing, even causing pain and pulling in the chest and ribs, with scanty and sticky phlegm, accompanied by irritability, anger, a bitter mouth, and dry throat. Based on the principle that "the liver governs convulsions," treating such coughs can use Dai Ge San (Indigo and Clamshell Powder) combined with Xie Bai San (Drain the White Powder) to clear and purge lung heat, disseminate the lungs, and stop coughing. Additionally, Bai Shao (White Peony Root), Chan Tui (Cicada Moulting), Gou Teng (Uncaria Stem), Xia Ku Cao (Prunella), Gan Di Long (Earthworm), and other herbs that clear heat and calm the liver can be included. Overall, the treatment aims to clear liver heat, prevent excessive yang qi, regulate and smooth liver qi, normalize its dispersing function, and allow lung qi to disseminate and descend, thereby stopping the cough.

4.3 Liver Wind Stirring Internally Type (Gan Feng Nei Dong Xing)

In children, the liver often has an excess, making liver yang prone to exuberance and liver wind to stirring. If affected by external wind-heat and lung defense being invaded, it often stirs liver wind, with internal and external factors interacting, and liver and lung sharing the disease, manifesting as continuous cough, sticky phlegm that's hard to expectorate, itchy and painful throat, aversion to wind, and itchy body. In children, who are considered "pure yang" and whose liver wood is growing, similar types gather together, and after being affected by evil, the transformation into heat is rapid. The treatment should soothe the wind and calm the liver. Depending on whether liver fire or lung heat is more severe, use Yin Qiao San (Honeysuckle and Forsythia Powder) or Sang Ju Yin (Mulberry Leaf and Chrysanthemum Drink) to soothe the wind, disseminate the lungs, and stop coughing on top of selecting liver-channel calming, wind-extinguishing herbs like Jiang Can (Stiff Silkworm), Di Long (Earthworm), Chan Tui (Cicada Moulting), Feng Fang (Beehive), Gou Teng (Uncaria Stem), etc. Jiang Can and Chan Tui can enter both the liver and lung channels to expel wind, stop convulsions, and transform phlegm. They can also enter the lung channel to relieve tracheal and bronchial spasms, having a cough-calming effect, and enter the liver channel to extinguish wind and stop convulsions, calming the liver and controlling wood. On this basis, Chan Tui and Jiang Can are added to expel wind and resolve convulsions. Jiang Can contains quercetin and bergenin, its main pharmacological components, and quercetin has good phlegm-expelling, cough-stopping, and asthma-calming effects. Chan Tui can increase phenol red secretion, inhibit the release of allergic mediators, and reduce immune reactions, thus having a

cough-calming, phlegm-expelling, asthma-relieving, and bronchospasm-resolving effect.

4.4 Liver Yin Deficiency Type (Gan Yin Bu Zu Xing)

Suitable for cases with rampant liver fire scorching yin fluids, typically with a constitution of yin deficiency, ultimately leading to coughing. Symptoms include dry cough, scanty sticky phlegm that's difficult to expectorate, accompanied by tidal fever, night sweats, heat in the palms and soles, restlessness, a red tongue, yellow coating, and a taut, fine, and rapid pulse. The treatment should nourish liver yin, moisten the lung, transform phlegm, and stop coughing. Clinically, commonly used cough-relieving and phlegm-transforming ingredients are added to Sheng Di (Rehmannia), Dang Gui (Chinese Angelica), Shan Yu Rou (Asiatic Cornelian Cherry), Yu Zhu (Solomon's Seal), Sha Shen (Adenophora), and Mai Dong (Ophiopogon). Among them, Dang Gui and Sheng Di nourish yin and enrich the blood to nourish the liver; Shan Yu Rou benefits the liver and kidney; Yu Zhu, Sha Shen, and Mai Dong nourish yin and moisten the lung. Together, these herbs achieve the effect of nourishing the liver and moistening the lung.

5. Analysis of Representative Herbs for Liver Cough

5.1 Chai Hu (Bupleurum)

Chai Hu (Bupleurum) is bitter and neutral, mainly affecting the heart and abdomen. It eliminates stagnant qi in the intestines and stomach, food accumulations, and hot and cold pathogenic qi, promoting the renewal of the old by the new. Chai Hu is mainly used in treating cough in formulas like Xiao Chai Hu Tang (Minor Bupleurum Decoction) and Si Ni San (Frigid Extremities Powder) from the "Shang Han Lun." Specific references can be found in lines 96 and 318 of the text. Line 96 mentions: "For coughing, Xiao Chai Hu Tang is the primary treatment." The medicine is modified by removing Ren Shen (Ginseng), Sheng Jiang (Fresh Ginger), and Da Zao (Jujube), adding Wu Wei Zi (Schisandra Berry) and Gan Jiang (Dried Ginger). Line 318 mentions: "For Shaoyin disease with Si Ni symptoms, if the person coughs or has palpitations, difficulty in urination, abdominal pain, or diarrhea with urgency, Si Ni San is the primary treatment." Xiao Chai Hu Tang treats this disease based on understanding the concept of "weak blood and depleted qi, open pores, pathogenic qi entering, and struggling with righteous qi," combined with the physiological and pathological characteristics of children, which are "tender yin and tender yang," susceptible to the six pathogenic factors. Xiao Chai Hu Tang harmonizes exterior and interior, reconciles Shaoyang, and supports the righteous qi to reach the pathogenic factors. It uses the light, clear, aromatic nature of Chai Hu to dispel Shaoyang pathogen, unblock qi mechanism's stagnation, and guide the pathogen outward; Huang Qin (Scutellaria) clears Shaoyang pathogenic heat. Starting from the liver, soothing the liver ensures smooth qi mechanism, facilitating communication between the interior and exterior, as well as regulating the ascending and descending, unblocking the Triple Burner's qi mechanism. Thus, Xiao Chai Hu Tang has an outstanding therapeutic effect on wheezing cough due to deficiency of righteous qi and external pathogens stirring latent phlegm.

5.2 Qing Dai (Indigo Naturalis)

Qing Dai (Indigo Naturalis), with its salty flavor and cold nature, has effects such as clearing heat, purging fire, and detoxifying. It has been widely used by generations of medical practitioners for sores, swelling pain, infantile convulsions, blood heat vomiting, and other conditions. "Ben Cao Zheng Yao" first recorded Qing Dai entering the liver channel, treating diseases in the liver channel caused by hot and fiery pathogenic qi. Later, Zhang Bingcheng's "Ben Cao Bian Du" noted that "Qing Dai mainly enters the liver... due to its light and ascending nature, it can also enter the lung and stomach," indicating that Qing Dai can enter both the liver and lung channels. It can calm liver fire and clear lung heat, thereby alleviating symptoms caused by liver fire such as facial redness, rib distension, and pain. It can also improve symptoms caused by lung heat such as cough and expectoration. It's often used to treat chronic cough due to liver fire attacking the lung syndrome. Professor Zhu Jinshan believes that the convulsive stage of pediatric whooping cough syndrome is due to deep invasion of external pathogens, transforming into heat and fire, scorching lung metal, liquefying fluids into phlegm, and the entanglement of phlegm-heat, deeply lurking in the qi path, unable to penetrate and reach, affecting both the lung and liver, with liver channel congestion heat stirring liver channel wind-fire, wood-fire punishing metal insulting the lung, with the primary disease location in the lung, but liver and lung often sharing the disease. Lung qi counterflow and phlegm-heat entanglement lead to spasmodic cough, red face, and suffocation; liver fire scorching lung fluid, lung dryness and phlegm-fire entanglement cause unsatisfactory phlegm discharge; the liver governs dispersion, the lung governs dissemination and descending, disharmony between liver and lung leads to disordered qi mechanism, hiccup, vomiting, and irregular bowel movements. Therefore, the treatment adopts a method of clearing the liver and purging the lung, treating both the root and the branch, not simply focusing on treating the lung. Xie Bai San (Drain the White Powder) combined with Dai Ge San (Indigo and Clamshell Powder) is used to achieve the purpose of clearing lung heat and calming the liver to descend the counterflow. The research results show that the combined treatment of Xie Bai San and Dai Ge San with external treatment methods can effectively improve the clinical symptoms of pediatric whooping cough syndrome, reduce the score of traditional Chinese medicine syndromes, indicating that the method of internal and external treatment together, treating the liver and lung simultaneously, is significantly effective in improving the clinical efficacy of pediatric whooping cough syndrome and is worth promoting in clinical practice. Cough and modern pharmacological research confirm that Qing Dai has good therapeutic effects in anti-inflammation, immune regulation, and antiviral aspects. Zhu Zhenheng also proposed in his writings that Qing Dai has remarkable effects in treating phlegm-abundant coughs.

5.3 Dai Zhe Shi (Hematite)

Dai Zhe Shi (Hematite) is bitter and cold, heavy and descending. It has the effect of descending counterflow and lowering qi, often used to lower stomach qi and stop vomiting. However, it can also lower lung qi, effectively treating externally contracted coughs, lung qi counterflow, and

conditions like counterflow cough and wheezing, as described in "Yi Xue Zhong Zhong Can Xi Lu." Dai Zhe Shi, with its heavy and sinking quality, is also good at calming counterflow qi. It descends phlegm and saliva and clears dryness and obstruction. Some scholars believe that patients with phlegm-fluid cough often have autonomic nervous dysfunction, due to decreased parasympathetic nerve function leading to increased reactivity of the body, causing bronchial constriction, spasm, and increased secretion. The treatment principle is to disseminate the lungs, expel wind, transform phlegm, and stop coughing, commonly using modified Xie Bai San, with ingredients like calcined Dai Zhe Shi, Fu Ling (Poria), Sang Bai Pi (Mulberry Root Bark), Di Gu Pi (Wolfberry Root Bark), Bai Qian (Cynanchum Rhizome), Bai Bu (Stemona Root), Kuan Dong Hua (Coltsfoot Flower), Zi Wan (Purple Aster), Gan Cao (Licorice Root). Calcined Dai Zhe Shi heavily calms counterflow, pacifies the liver and extinguishes wind, Fu Ling strengthens the spleen and benefits dampness, as phlegm transforms from damp evil, and dampness dissipates, so does phlegm, Sang Bai Pi and Di Gu Pi take the meaning of "Xie Bai San," as commonly used herbs for clearing and draining lung heat, Bai Qian, Bai

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6. Conclusion

In summary, pediatric chronic cough is closely related to the liver. The physiological characteristics of children inherently include an excess of liver qi. Thus, it's quite common for issues to arise such as liver fire attacking the lungs, discomfort in liver qi, deficiency of liver yin, and excess of liver yang, indicating abnormal liver physiological functions. Therefore, in the differential diagnosis and treatment of pediatric chronic cough, we must integrate all four diagnostic methods, closely monitor any abnormal changes in the liver, and timely administer appropriate treatments based on differentiation. These include dispersing the liver, clearing the liver, calming the liver, and nourishing the liver. The aim is to refine the traditional Chinese medicine diagnostic approach for pediatric cough and promote recovery from pediatric cough.

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