

Clinical Application of Asarum in Children with Pulmonary Diseases

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Abstract: Purpose: Studies on Asarum are more biased to adult internal medicine and miscellaneous diseases, pediatrics is rare, This study systematically summarized Asarum toxicity and its clinical application in pediatric pulmonary diseases. Method: Refer to the relevant literature, combined with the physiological and pathological characteristics of children, explore the reduction of Asarum toxicity, and explain the clinical experience of Professor Guo Yaxiong using Asarum to treat pediatric pulmonary diseases. Result: "Asarum is not more than a coin dagger", refers to the powder, only use, in decoction to add and diminish the disease. Conclusion: Traditional Chinese medicine dialectical first promote Yin and Yang, paying attention to the role of Yang; Asarum, spicy and warm, good for the treatment of pediatric pulmonary diseases, achieved good effect.

Keywords: Asarum, Toxicity, Pediatric Pulmonary diseases, Clinical application

1. Development of History

Asari Radix et Rhizoma belongs to the Aristolochia family, Asarum Heterotropoides Fr. Schmidt var. Mandshuricum (Maxim.) Kitag., Sieboldii Miq. var. Seoulense Nakai or Asarum Sieboldii Miq. Rhizomes and roots [1]. Before the Han Dynasty, Asarum was called "Shao Xin, Xiao Xin" [2]. It was first recorded in Shen Nong Ben Cao Jing [3] and was classified as "top grade", "Asarum, taste pungent, and warm". Major cough, headache, brain movement, cramps, rheumatism, dead muscle. For a long time to serve the eyes, Li Nine Qiao, had a light body, and long years. "Wu Pu Materia Medica said, "Li: Minor cold. Such as kiwi, red leaves, and one leaf linked. "Its root is extremely fine and its flavor is very spicy, so it's called Asarum.

2. Traditional and modern knowledge of Asarum toxicity

(1)There are controversies about whether Asarum is toxic: ① Non-toxic theory: It is classified as top quality in this Classic without stating its toxicity. It was first proposed in Bielu of Famous Doctors, and much later material medico, such as Notes to Ben Cao Jing Ji Zhu and Materia Medica, advocate this view. There are also related reports and literature record that excessive use of Asarum without toxic side effects. For example, Dong Shi [4] has been using Asarum 10-15g for more than 20 years in clinical practice, while increasing Asarum when it exceeds 15g, without toxic side effects."②Toxic theory: Song dynasty the famous physician Chen cheng first put forward this idea in the "Ben Cao Bie Shuo", "Asarum is used alone, do not use more than half of the coin, More than that, suffocating death", Although this book was lost, the original text about Asarum has been quoted in "Zheng Lei Ben Cao", and later included in Compendium of Materia Medica by Li Shizhen, who expanded "half coin dagger" to "one coin dagger", and began to say that "Asarum is no more than one coin dagger, and one coin dagger is linked to life" [5]. Zhong Jing recorded for the first time the "small poison" of Asarum in Bencao Zheng. The National Compilation of Chinese Herbal Medicine and various editions of Traditional Chinese Medicine also recorded that Asarum has a small poison. Modern toxicological studies have shown that safrole, the main toxic substance of Asarum, can cause respiratory paralysis and death, and aristolochic acid has obvious renal toxicity, proving that Asarum is "slightly toxic" [6]. In a county of Yancheng, Jiangsu province, a 3-year-old boy was poisoned after taking the compound decoction containing Asarum 21g, and finally died of respiratory paralysis accompanied by seven-hole hemorrhage [7]. Although the above case reports are not statistically significant, it at least shows that a

High dose and no indication of medication can cause poisoning and respiratory paralysis, which is in line with the literature that "more Asarum means suffocating and obstructing death". We should give a lot of attention to the safety of the Asarum in the clinic.

(2) Ancient "poison is medicine". The "poison" of Traditional Chinese medicine is obtained through continuous practice, observation, and analysis by physicians of all dynasties, so there are toxic and non-toxic Asarum. The basic characteristic of drug action is the duality of potency and toxicity [8]. The theory of toxicity was first found in this Classic: The attributes of drugs are toxic and non-toxic. "Poison" refers to the bias of drugs. TCM cures diseases by using the bias of drugs to correct the bias of Qi, blood, and Yin and Yang under the guidance of the holistic concept and syndrome differentiation theory.

3. To reduce the toxicity of Asarum and give full play to its clinical efficacy, be necessary to discuss and analyze the dosage form, processing, Compatibility and Incompatibility, discrimination, channel tropism, and efficacy.

(1) The dosage form: The careful use of Asarum in "Ben Cao Bie Shuo" is in the special circumstances of "raw use", "single-use" and "powder", that is, "if Asarum is used only, it should not be half of the coin, too." The amount of Asarum in TCM decoction is much higher than "one coin dagger" recorded in Compendium of Materia Medica and 1-3g in the Pharmacopoeia. Zhong Jing used 19 Asarum prescriptions, with a large dosage, but no single use. The maximum Asarum in the Wumei pills was 6 Liang. "Processed honeyed pills are as big as hemp seeds, and the daily dosage is less than 1g [9]. Asarum is used in Hou's Black powder, the daily dosage is also far less than 1g. The maximum amount of Asarum in the decoction is three Liang, The commonly used decocting method is "take eight liters (or one bucket) of water, boil three liters and take them in three times". Long-term decocting and concentrated decocting can reduce the toxicity of Asarum. Modern pharmacological experiments show that safrole is volatile, the content of root is larger than the whole grass, the lowest in leaves. The content of aristolochic acid is higher above ground than underground, and the difference can reach dozens of times [10]. After 30 minutes of Asarum decoction, the concentration of safrole was only 2% of the original medicinal material, which was not enough to cause poisoning, and the main active component of methyl eugenol was preserved, thus achieving the goal of toxicity reduction and efficiency enhancement [11]. Clinically, Asarum cannot be used alone at the end of the research or in the pill, powder more than 3g, but the decoction needs to be used according to the changes in the disease differentiation, flexible addition, and reduction, does not need to stick to the Asarum not exceeding one coin dagger.

(2) Processing: "Mingyi Bielu" stated: "native to Huayin, February, August root, Yin dry." The yield and quality of the roots are higher in early spring and late fall. "Lei Gong Pao Zhi Lun" record: Must go to the head, pick off the leaves and other impurities, wash, soak in melon water for a night, to dawn, dry with exposure. Stir-frying Asarum can reduce the content of safrole by up to 24%, increase the main effective components of methyl eugenol by up to 36% and increase the content of Asarinin by up to 15%. Alkali prepared Asarum can also reduce the aristolochic acid content by 42% compared with crude arum [12], which can reduce toxicity and increase efficiency through correct processing.

(3) Compatibility and incompatibility: The combination of Asarum and peony can dramatically reduce the acute toxicity of Asarum [13]. Licorice can also alleviate the toxicity of Asarum [14]. "Ben Cao Jing Ji Zhu" words: "contraindicated Wolfsbane, Cornus Officinalis, Astragalus Membranaceus, Fear saltpeter, talc, Resveratrol. At present, it is widely recognized and used in clinical practice Is the "eighteen antis" in the Asarum renegades Rhizoma veratrine. Dietetic respect "Avoid lettuce" and "avoid beaver meat". Proper compatibility of traditional Chinese medicine can enhance efficacy and reduce toxicity, but improper compatibility can reduce efficacy and even produce toxicity. Hence, great attention needs to be paid to the compatibility and contraindication of traditional Chinese medicine in clinical use.

(4) Discrimination: Asarum root is very fine, straight, dark purple, spicy, and chewy like pepper. Heng leaves as Kwai leaves, red and black, horseshoe-shaped, commonly called horseshoe incense. Ghost mail like Asarum is very fine and straight, yellow and white. Xu Changqing "Leaves like small mulberries, roots like Asarum, slightly thick, long and yellow, spicy taste". Need to distinguish carefully, and medically accurate.

(5) Channel tropism: "Lei-Gong Processing Medicinal Solution, "says: "The Classics of heart, liver, gallbladder, and kidney", "warm reaches the liver and pungent taste reaches the lung" As stated in "Ben

Cao Qiu Yuan". It is now recorded in the Chinese Pharmacopoeia and the science of Chinese materia medica that the Asarum is inserted into the "heart, lung and kidney Meridian" [15].

(6) Efficacy: Asarum is "the surface agent for curing the inner ailment". Both outside spread the wind, cold, and warm cold inside. "Lower and rinse to relieve cough, dispel cold and moisture and shake turbidity, clear the airway, and at the same time pass water". "Ming Yi Bie Lu" is called "broken phlegm", It can ventilate water and relieve cough. "Shennong Herbal Classics hundred kinds of records", said "all the incense odor, can evacuate the evil wind. The Asarum has a strong Qi and a strong flavor, and its evacuation strength is greater." According to Compendium of Materia Medica, "Asarum can be used to treat various symptoms such as wind chill, rheumatism, headache, phlegm." pungent can evacuation of wind and cold, and warming lung to reduce watery phlegm, so it is suitable for people with Windchill cough phlegm and retained fluid.

Experimental studies have shown that methyl eugenol, the main medicinal ingredient of Asarum, has antitussive, expectorant, anesthetic, analgesic, and Bacteriostatic effects, and Asarinin has antiviral, anti-tuberculosis, and immunosuppressive effects. Asarum volatile oil can relieve airway smooth muscle spasm, Asarum water or ethanol extract has an anti-allergic effect, the alcohol infusion, volatile oil can inhibit gram-positive bacteria, grass bacillus, and BacillusTyphi, Asarum decoction can inhibit bacillus, Safrol can resist fungi [16], can be widely used in the treatment of respiratory diseases.

4. Clinical application

(1) Physique: Children's lung is delicate and unfilled. Directly connected with the outside world, winter and spring season, climate change, cold temperature inappropriate, lung gas weak, weakened defensive Qi, external evil from the mouth and nose or skin, susceptible to external evil be taken badly. Children's spleen is often insufficient, the Qi of the spleen and stomach is not strong, the spleen is weak so that the spleen soil cannot produce lung gold, lack of positive Qi and easy disease. Childhood illness spreads easily and rapidly.

(2) Modern living environment: eating and drinking without temperance, Eating too much frozen, seafood and other food, damage to children's spleen and stomach; living conditions, Children are not cold and warm, in the hot climate is more like to have air conditioning and another cold environment; Drug damage, Children are the body of pure Yang, more think that Yang often surplus and Yin deficiency, easy to fire from the Yang, heat syndrome multiple, easy to use heat antidote treatment. Lead to a cold constitution, reduced body immunity, easy to get cold syndrome Diseases.

(3) Lung malfunction, water is difficult to disperse and condensed fluid retained. Lung deficiency Yang, attack of cold evil, deficiency of Yang cannot warm the body fluid tissue, there is the cold surface on the outside, with phlegm and liquid retained inside. The spleen and stomach can transport water valley essence, spleen and stomach deficiency, dereliction of duty, spleen Yang deficiency, water wet body fluid concentration, and phlegm; People with weak lungs and spleen are more likely to feel the evil of wind and cold, and form inner fluid-retention syndrome outside cold after feeling cold. Ming Dynasty, Li Zhongzi said: "The spleen is the source phlegm, the lung is the phlegm storage, phlegm control ignore the spleen and stomach, not its treatment." Jinkui Yaolue," said "the sick of phlegm drink, You should mix it with warm medicine." use warm medicine, warm can inspire spleen Yang, spleen Yang healthy transport, pungent can dispersion lung Qi, Pulmonary function was normal, water diversion, cold outside scattered, phlegm drink internalization, disease self-healing.

Supervise or Guo Yaxiong, chief physician, based on years of clinical observation, combined with children's physiological and pathological characteristics and living environment, concluded that children's lung diseases are mostly clinically cold syndrome, Asarum has small poison, and useless in clinical practice, especially in pediatrics, the supervisor uses it has no side effects in clinical medicine, but the effect is better. Spicy and warm Asarum, "there is a reason without harm to the human body ", can be widely used in the treatment of pulmonary diseases.

5. Medical case example

Liu, male, 8 years old, was first diagnosed on September 29, 2021. Chief complaint: cough for 2 weeks, aggravation with expectoration for 3 days. 2 weeks ago, the child occasionally had a cough after catching a cold, paroxysmal, irritating monophonic cough, early, late or severe cough after activity, chest X-ray, mycoplasma, and other examination results returned normal, due to a history of allergy,

diagnosis of "allergic cough", oral treatment of "desloratadine, cephalosporin" and other drugs, symptoms relieved. 3 days ago, the cough frequency of the children after catching a cold was significantly increased than before, with cough drama at night and in the morning, even vomiting, white and clear sputum, nasal congestion, runny nose, fear of cold, night rest is not good, the tip of the tongue slightly red, The tongue coating is white and slippery, pulse string tight. Loose stools, Pharyngeal congestion is obvious, and both lungs auscultation blow thick can hear the noise of phlegm. Traditional Chinese medical diagnosis: infant cough with phlegm and fluid retention on the lung. Prescription: raw ephedra 5g, cassia twig 10g, fried Chinese herbaceous peony 10g, Schisandra Chinensis 10g, Schizonepeta 8g, Radix Sileris 8g, Asarum 3g, Pinellia Ternata 8g, dried ginger 10g, Poria cocos 10g, Bupleurum 10g, Scutellaria Baicalensis 6g, prepared Glycyrrhiza Glycyrrhiza 6g. 3 doses, 1 dose daily. October 2, 2021 return visit: After taking the medicine, the cough of the child was relieved significantly, and occasionally coughed before going to bed at night and in the morning, with a small amount of yellow phlegm, no nasal congestion or runny nose, poor appetite, pink tongue, yellow and white furred tongue, slightly stringed pulse. Adjust the medication: subtract Schizonepeta, Radix Sileris, add semen Raphani 8g, tangerine peel 8g, Dangshen 15g, stir-frying Atractylodes Atractylodes 10g. After taking 7 doses, the patient recovered.

Analysis: According to the tongue, pulse, symptoms, and TCM syndrome differentiation treatment, hence, Xiaqinglong decoction adds and subtracts. In the prescription, raw ephedra, cassia twig can relieve the surface and disperse cold, open the closed and stranded lung qi, and solve the pathogenic fluid-retention in the surface. Asarum is pungent and warm, both into the lung scatter the outside of the surface cold, and into the kidney warm the inside of the cold, solid protection of Yang qi, so that make the Yang qi interlinked in exterior and interior. dried ginger, Asarum, and Pinellia can warm lungs, and remove pathogenic fluid retention in vivo. Chen Xiuyuan said, "Dried ginger is used to make the lung open, Schisandra Chinensis is used to make the lung close, and Asarum is used to make the lung open and close". Schisandra Chinensis and fried Chinese herbaceous peony are acerbities and astringent, sour-sweet herbs nourishing yin which can not only enhance the efficacy of relieving cough but also can be used to make raw ephedra, cassia twig scatters too much and damage lung Qi, and restrict the harm of dry ginger, Asarum, Pinellia warm dryness hurts Yin. Poria cocos, toning the spleen at the same time to retain pathogenic fluid output, so that phlegm dissipates, with no regenerating pathogenic fluid retention. Prepared Glycyrrhiza strengthens the body's resistance, balancing the medication.

Add Bupleurum and Scutellaria Baicalensis go up and down depending on each other, so that the activities of Qi hub can return to normal, lung Qi descending, liver Qi rising. The pathogenic factor becomes hot for a long time, and appears "cold wrap fire", Should warm and clear heat medicine combination, Scutellaria Baicalensis can clear heat, also can restrict warm and dry fierce nature. Use all the drugs together, to attain the function of relieving exterior syndrome and clearing out pathogenic fluid retention. According to the children's constitution, the condition changes with Shenling Baizhu Powder conditioning.

Return visit: According to the children's constitution, the patient's condition changed, gave Shenling Baizhu powder to recuperate. Strengthening earth to generate metal, Treatment according to syndrome differentiation, increase and decrease with the Disease medicine, take into account the inside and outside, Spine acid harvest, wind and cold scattered, pathogenic fluid retention clear out, camp guard reconciled, then all diseases restoration.

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