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The Feasibility of Dissolving Phlegm With Oil Method and the Theory of Traditional Chinese Medicine

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KEYWORDS

*Dissolving Phlegm With Oil,
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ABSTRACT

Sputum is the product of water metabolism disorder. It is characterized by a thick texture and poor fluidity. According to the traditional Chinese medicine of the same energy attracts each other and drawing analogies by comparing images, the application of medications with a consistency similar to sputum, rich in oils or volatile oils, serves to achieve the objective of "oil-dissolving sputum". This not only facilitates the expulsion of sputum but also addresses the depletion of body fluids caused by the production of phlegm and fluid retention. This approach is particularly suitable for treating phlegm-related syndromes and holds significant clinical promotion value.

1. Introduction

The historical roots of the "dissolving phlegm with oil" method are deeply intertwined with traditional Chinese medicine principles. This practice stems from ancient techniques involving the topical application and ingestion of oils to moisturize and expel phlegm. The *Huangdi's Canon of Medicine* discusses how "phlegm" formation is linked to internal dampness and pathogenic factors, suggesting that oils can help dredge meridians, hydrate the lungs, and assist in resolving phlegm and dampness. Throughout history, oils have also played a role in the preparation of medicinal formulations and dietary therapies, serving to lubricate and penetrate tissues. During the Ming and Qing Dynasties^[1], there were actual cases of using oil to dissolve phlegm in medical books, emphasizing the positive effects of oil on lung health. *Compendium of Materia Medica* mentioned that a variety

of fats (such as sesame oil, peanut oil) has a good phlegm-reducing effect. ^[2]. Contemporary medical research has demonstrated that the unsaturated fatty acids present in certain vegetable oils exhibit significant anti-inflammatory properties, which can enhance lung tissue function and facilitate sputum expectoration^[3]. Simultaneously, the lubricating properties of the oil assist in reducing irritation to the airway mucosa and mitigating cough responses^[4]. These findings offer contemporary biomedical validation for traditional Chinese medicine theory, demonstrating the scientific rigor and practical efficacy of the "dissolving phlegm with oil" method.

2. The Concept of "Phlegm" in Medical Theory

Phlegm is the pathological product of thick turbidness caused by the disturbance of water and liquid

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metabolism^[5]. "Sputum" and "Fluid retention" are both pathological products of water and liquid metabolism disorders, but in nature, the texture of "sputum" is thick, thick and turbid, while "Fluid retention" is relatively clear. In addition to the general "sputum", there are "visible sputum" and "invisible sputum", tangible sputum refers to the visible, audible and tactile sputum of tangible quality, intangible sputum is also caused by water and liquid metabolism disorders, but compared with tangible sputum, invisible sputum intangible quality is visible, although not visible, but there are signs, often clinical symptoms and signs. Such as body aches, head heavy such as wrapping, tongue coating greasy and so on to judge the existence of invisible phlegm^[6]. In summary, sputum results from disorders in water and fluid metabolism, characterized by poor mobility and a thick consistency. According to traditional Chinese medicine (TCM) theory, phlegm-dampness is categorized into exogenous and endogenous types. Endogenous phlegm-dampness is primarily associated with spleen deficiency, improper dietary habits, emotional disturbances, and other contributing factors^[7].

3. Feasibility of "Dissolving Phlegm With Oil" Method

On the basis of the pathology of "phlegm", the method of "dissolving phlegm with oil" utilizes the good dissolving characteristics of oil used externally or orally to gradually decompose the stubborn phlegm components into forms that are easy to be eliminated, so as to achieve the effect of expectorating phlegm. The article Synopsis of Golden Chamber · Phlegm and Drink Cough Pulse Syndrome and Treatment twelfth points out, when a patient is sick with phlegm-rheum, harmonize with warm medicines" as the treatment principle^[8]. Disease cause pulse treatment emphasizes the importance of "treating fire" in the treatment of "phlegm"^[9]. This paper expounds the important role of "treating phlegm and fire" in the treatment of TCM from the aspects of lung, spleen and kidney. Lung phlegm syndrome and autumn dryness syndrome are the same, both belong to "fire" accumulation. To restrain Yin and reduce fire as the rule of treatment. Kidney phlegm syndrome takes nourishing Yin and clearing heat as the treatment principle, spleen phlegm syndrome takes invigorating spleen and relieving cough as the treatment principle^[10]. Most of the drugs used for phlegm syn-

drome are Phellodendri, Zhimu, cooked ground, orange peel, fritillaria, Trichosanthes and so on. The rhizome and Phellodendron chinensis have anti-inflammatory and antioxidant effects^[11]. Ripe ground is rich in mannitriose, which can antagonize the damage of hippocampal nerve cells by corticosterone and prevent the decline of learning and memory, which is the embodiment of the role of "reinforcing lean marrow" in traditional Chinese medicine^[12]. The effect of dried tangerine or orange peel has expectorant, whets the appetite, cough, and play a major role is dried tangerine or orange peel naphtha composition^[13]. Fritillaria and trichosanthis are also seed kernel expectorant drugs, and the expectorant effect mainly comes from their oil components^[14-15].

Compendium of Materia Medica points out that "to treat dampness phlegm with ginger juice and alum soup, to treat wind phlegm with ginger juice and soapying boiled juice, to treat fire phlegm with ginger juice, bamboo drain or jing drain, to treat cold phlegm with ginger juice, alum soup and white mustard seed^[16]. Phlegm toxicity can be divided into three types: "fire", "cold" and "wet", among which "fire phlegm" is the main type of phlegm syndrome. In the treatment of heat phlegm syndrome, it is emphasized that different prescriptions should be selected according to the urgency of the disease, the severity of the disease and the combination of the disease and syndrome. For mild phlegm-heat conditions, medications such as Fructus Trichosanthis, Loquat Leaves, Pinellia, and Fritillaria are commonly used to clear phlegm-heat. Among these, Fructus Trichosanthis is classified as a seed-kernel expectorant due to its properties. In contrast, Loquat Leaves and Pinellia do not fall under the category of seed-kernel expectorants. Notably, the active component in Pinellia is pinellian, which is fat-soluble^[17]. Loquat leaves are rich in triterpenoid acids, volatile oils and flavonoids, and also have the characteristics of fat solubility^[18]. For patients with severe phlegm-heat syndrome, the combination of heat-clearing powder and dampness-resolving, phlegm-expelling medication is employed to enhance the efficacy of treating heat syndromes. For instance, in the treatment of phlegm-heat cough characterized by symptoms such as flushed face, dry mouth, rapid pulse, and other manifestations, the use of Pinellia ternata, processed Aconitum carmichaelii, and Scutellaria baicalensis can be considered^[19-21]. The active constituents of these three medications are polysaccharides and flavonoids, which exhibit lipophilic properties.

"Chinese Materia Medica" divided phlegm-reducing drugs into warming cold phlegm drugs, clearing hot phlegm drugs, cough and antiasthmatic drugs, a total of 36 kinds[22]. Among them, mustard seed, *Gleditsia sinensis*, *Thunbergii Fritillaria*, *Fritillary Fritillaria*, bitter almond, *Perilla seed*, *nemorosa seed*, ginkgo and so on are seed kernel drugs in plant medicine, although some plant drugs are not seed kernel medicine, such as aster, Baibu, etc., but clinical studies have confirmed that aster contains volatile oil, polysaccharides, flavonoids and other substances[23]. These substances are fat-soluble and have the characteristics of oils. Clinical medium temperature cold phlegm drugs used pinellia, white mustard seeds, white front, Qinghua hot phlegm drugs used Sichuan *Fritillaria*, Zhejiang *Fritillaria*, *Fructus trichosanthis*, *platycodon*, front Hu. In addition to *platycodon platycodon*, rhizome, white rhizome and pinellia pinellia are non-seed kernel drugs, other drugs are seed kernel or contain seed kernel[24]. Clinical studies on the pharmacology of San Zi Yang Qin Tang[25] pointed out that the three medicines in San Zi Yang Qin Tang contain fatty acids in varying degrees, especially Lapis lazuli, which contains 45% fatty oils, which is closely related to the mucolytic effect of the formula.

There are also some special non-kernel expectorant drugs, such as Pinellia, pinellia is tuber medicine, and Pinellia is toxic, so Zhang Zhongjing uses the word "washing" when Pinellia, because there is a layer of mucus on the surface of the pinellia, this mucus will cause irritation to the human respiratory tract, may cause laryngeal edema, suffocate the patient[26]. The author posits that the viscous mucus secreted by Pinellia is a substance akin to "sputum" with low fluidity. This mucus can encapsulate and integrate with the sputum in the human body following medicinal administration, thereby facilitating the combination of pharmacological agents and pathological products for more effective elimination from the body. Modern pharmacological studies have shown that pinellia contains volatile oil components [27], and the mucus covered on the surface of raw pinellia is the external manifestation of volatile oil components. Therefore, although pinellia is not a seed drug, it also has the characteristic of "disresolving phlegm with oil" in the cognition of traditional Chinese medicine

Seed kernel expectorant contains rich plant volatile oil, good at moistening dryness, so it is more suitable for dryness sputum. However, the author believes that where phlegm exists, body fluid must be

lost. There are two reasons: First, because the phlegm itself is difficult to flow and thick characteristics, it shows that the phlegm itself is lack of body fluid. Second, there is limited space for normal body fluid. If pathological phlegm and fluid increase, occupying the space of physiological body fluid, normal body fluid cannot be transferred, and human body fluid can also be deficient. Therefore, seed seeds and expectorant drugs are not only suitable for dryness phlegm syndrome, but also suitable for other phlegm syndrome, because where there is sputum generation, normal body fluid will inevitably decrease in the body.

4. Exploration of TCM Theory by Oil-Soluble Sputum Method

4.1. Same Energy Attracts Each Other

According to the principle of TCM, expectorant drugs that are more similar to phlegm should be used, and expectorant drugs containing oil are obviously more appropriate^[28]. Phlegm is the predecessor of the drink, sputum is characterized by poor fluidity, thick texture, indicating that the sputum itself is "lack of water", if the use of oil-rich seed drugs, have the effect of moistening dryness, can moisten the sputum, make the sputum easy to flow, and then easy to spit or discharge. Such drugs contain less water, oil into the body relative to body fluid and other poor mobility, similar to the nature of sputum, easy to dissolve into a body, and oil expectorant drugs along the normal qi and blood operation of the human body, the expectorant will be discharged from the body, to complete the expectorant process. At the same time, in addition to moistening and smoothing phlegm, the oil-rich seed kernel can also moisten and smooth the joints, meridians and zangfu organs of the whole body, further regulate the channel of Qi, restore the balance of qi, blood and Yin and Yang of the body, and naturally contribute to the elimination of phlegm.

4.2. Drawing Analogies by Comparing Images

The core of TCM thinking is "comparing image with class" ^[29]. The conventional approach to treating phlegm disorders involves the use of warming medications. According to Zhang Zhongjing's Synopsis of the Golden Chamber, it is stated that "phlegm and fluid retention should be treated with warming medicines." This principle is based on the fact that phlegm and fluid retention are pathological products resulting from disordered water metabolism, which retains the

characteristic of being "damp." Therefore, it is logical to employ warming medicines to eliminate dampness and resolve phlegm and fluid retention. As a pathological product, phlegm can complicate the disease process in various ways: it may affect mental functions, lead to subcutaneous nodules or tumors, and obstruct qi movement, causing stagnation and fever. Ultimately, phlegm results from impaired fluid metabolism, forming a viscous mass with poor mobility. Over time, the fluid content decreases further, eventually leading to blood stasis and even solid masses. If fluid metabolism remains abnormal, initial dampness transforms into fluid accumulation, and warming medicines can help dry dampness and purify fluids. However, when phlegm has already formed a viscous mass with poor mobility, it indicates a deficiency in body fluids, making it difficult for the phlegm to flow. In this case, using warming medicines may exacerbate the deficiency of body fluids and worsen the mobility of phlegm. Instead, employing "warm-moist" expectorants, such as those derived from seeds or containing volatile oils, can not only replenish body fluids but also enhance the mobility of phlegm, thereby achieving better therapeutic effects.

4.3. Theory of Meridian Tropism

Supported by the theory of sex and taste normalization, oil-soluble drugs can exert significant effects on specific pathological conditions. For instance, oily and warm drugs can facilitate the expulsion of phlegm by lubricating the respiratory tract, thereby aiding in its dissolution. In practical applications, traditional Chinese medicines such as *Fructus Trichosanthes*, *Fritillaria Thunbergii*, and *Perilla seed*, which possess soluble and lubricating properties, can be effectively combined with the theory of drug sex and taste to promote sputum discharge.

4.4. Western Medicine Theory Support

Seed kernel expectorants are abundant in triterpenoids, flavonoids, polysaccharides, and antioxidant compounds, which collectively enhance the body's capacity to eliminate pathological products. The clinical application of the "oil-dissolving sputum" method is closely associated with the physiological characteristics of the airway. When seed kernel phlegm-reducing drugs form an oily film within the airway, they effectively protect airway epithelial cells, mitigate external stimuli on the respiratory system, improve local blood circulation, and promote better drug penetration and absorption, thereby enhancing mucus

clearance^[30]. Simultaneously, the lubricating properties of the oil can alleviate airway obstruction caused by viscous sputum and fulfill respiratory physiological requirements. The extraction and utilization of bioactive compounds are also a focal point in modern medicine. Research has demonstrated that certain bioactive substances found in kernel oils, such as glycosides, polyphenols, organic acids, saponins, tannins, and vitamin B1^[31], possess antioxidant and anti-inflammatory properties, thereby enhancing the efficacy of expectorant treatments. Modern pharmaceutical formulations are increasingly emphasizing the emulsifying characteristics of oils to improve drug bioavailability and achieve superior clinical outcomes.

5. Case Analysis of Kernel Expectorants

Pu Fuzhou once treated a case of sputum asthma in children ^[32], identified the pathogenesis as phlegm block, lung loss, depression and heat, and treated lung to reduce phlegm, with fried draba seed, fried *Perilla seed*, fried white mustard seed, gualou kernel shell, fried raphanus seed, white front, aster, bamboo leaves, reed root, scallion white and other 10 flavors of medicine, half of which are seed kernel expectorant drugs. Because of the delicate organs of children, for the young Yin and Yang body, the disease is more pure, affected by other system diseases may be less, so the treatment of children's phlegm syndrome, the drug has a high guiding value.

6. Conclusion

The theory of phlegm disease in traditional Chinese medicine (TCM) is rooted in a profound understanding of "phlegm," which is not only recognized as a pathological product but also serves as an indicator of internal dysfunction. TCM classifies phlegm into two categories: "tangible phlegm" and "intangible phlegm." Tangible phlegm results from the accumulation of dampness and turbidity within the body, while intangible phlegm arises from Qi deficiency and Yin deficiency. The formation of phlegm is closely associated with the functions of the spleen, lung, and kidney. Specifically, the spleen governs transportation and transformation, the lung oversees dispersion and 肃降 (sedation), and the kidney accumulates essence; these three organs interact and influence each other.

Clinically, common phlegm syndromes include damp-phlegm, cold-phlegm, hot-phlegm, and dry-phlegm. Each type has distinct manifestations and etiologies. Damp-phlegm primarily results from insufficient spleen and stomach function, leading to endogenous dampness and turbidity, with clinical symptoms such as chest tightness, coughing, and excessive phlegm. Cold-phlegm is caused by cold pathogenic factors or spleen-stomach yang deficiency, often accompanied by thin white phlegm and cold extremities. Hot-phlegm is due to internal heat or improper diet, manifesting as yellow thick phlegm, thirst, and constipation. Dry-phlegm mainly stems from Yin deficiency or invasion by dryness, characterized by dry cough with scant sputum.

In terms of differential diagnosis and treatment, TCM emphasizes the integration of "treating the root cause" (治本) and "addressing the symptoms" (治标). For phlegm syndromes, various methods such as resolving phlegm (化痰), warming transformation (温化), and clearing heat (清热) are commonly employed for comprehensive regulation. Through in-depth study of TCM's phlegm disease theory, it becomes evident that many modern therapeutic approaches share similarities with TCM principles. Oil-dissolving phlegm can effectively improve damp-phlegm conditions. Emulsification using plant extracts or combining traditional Chinese medicine with oil aids in diluting and expelling phlegm.

The theory of phlegm disease in TCM underscores the importance of adopting different regulatory and therapeutic methods based on individual constitution and causative factors. This not only provides a theoretical foundation for the "oil-dissolving phlegm" method but also holds significant guiding value and clinical significance in practical applications. A comprehensive treatment approach grounded in TCM's phlegm disease theory can facilitate effective integrated Chinese-Western medicine interventions and enhance overall therapeutic outcomes. In conclusion, expectorant drugs, particularly those rich in volatile oils or derived from seeds and kernels, align well with the characteristics of "oil-dissolved phlegm" and are more effective in treating phlegm and fluid disorders. Further clinical pharmacological research is needed to substantiate these findings.

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