

*TMR Integrative Medicine***Treating epilepsy based on phlegm-turbidity syndrome**

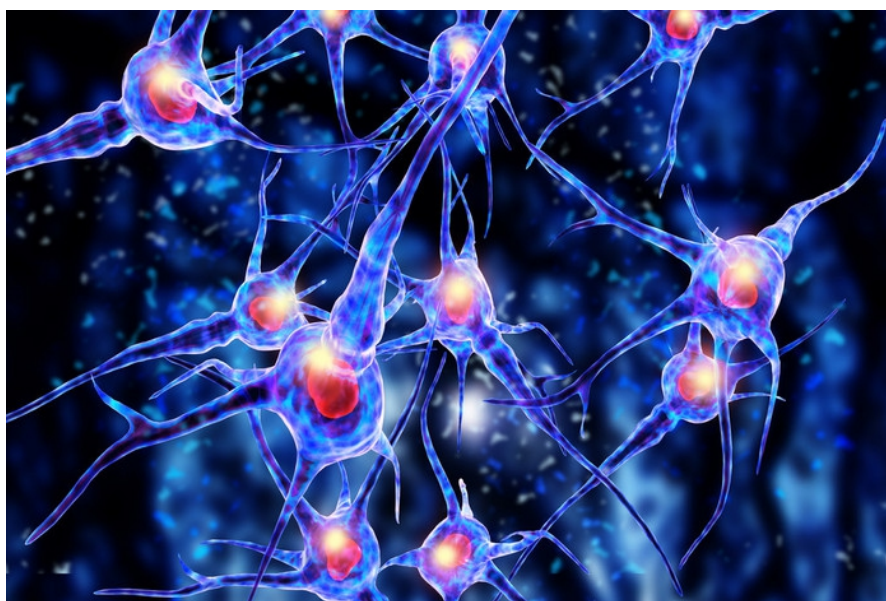
Shu-Ning Liu<sup>1</sup>, Xin Ping<sup>2</sup>, Shao-Kun Qin<sup>2</sup>, Ye Lu<sup>3</sup>, Shao-Dan Zhang<sup>4</sup>\*, Lin Pei<sup>3</sup>\*

<sup>1</sup>School of Chinese Medicine, North China University of Science and Technology, Tangshan 063210, China. <sup>2</sup>School of Chinese Medicine, Hebei University, Baoding 071051, China. <sup>3</sup>Hebei Academy of Traditional Chinese Medicine, Shijiazhuang 050031, China. <sup>4</sup>The Second Hospital of Hebei Medical University, Shijiazhuang 050073, China.

**\*Corresponding to:** Shao-Dan Zhang, The Second Hospital of Hebei Medical University, 215 Heping West Road, Shijiazhuang 050073, China. E-mail: 13653115066@163.com. Lin Pei, Hebei Academy of Traditional Chinese Medicine, 209 Jianhua South Street, Shijiazhuang 050031, China. E-mail: peilin13831190309@126.com.

**Highlights**

Phlegm-turbidity syndrome phlegm-turbidity, as a new topic in the basic theory of traditional Chinese medicine, is active in various fields of traditional Chinese medicine. This article is the first time to explore the seizure mechanism of epilepsy from the phlegm-turbidity theory, which provides important academic value and guiding significance for clinical treatment.



## **Abstract**

Through expounding the theory of phlegm-turbidity and the development of epilepsy, this paper presents the new theoretical basis for the treatment of epilepsy. The authors calculate that phlegm and turbidity are different in the formation and pathogenic effects. Therefore, it is necessary to expound the formation of the phlegm and turbidity. It is also necessary to explain the pathogenesis of the phlegm and turbidity in the epilepsy. Phlegm is caused by the invasion of external evil, emotional disorders, or Qi deficiency and decline, resulting in Qi and blood disorder in the body; the accumulation of phlegm and heat for a long time will lead to the accumulation of turbidity; further with the failure of Qi and fluid circulation, it will lead to brain damage and epileptic seizures. Therefore, the treatment needs to distinguish the severity of phlegm and turbidity, based on which, use different herbs for the treatment of epilepsy.

**Keywords:** Epilepsy, Phlegm-turbidity, Pathogenesis, Detoxification, Traditional Chinese medical treatment

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## **Abbreviations:**

TCM, traditional Chinese medicine.

## **Competing interests:**

The authors declare that there is no conflict of interest.

## **Citation:**

Shu-Ning Liu, Xin Ping, Shao-Kun Qin, et al. Treating epilepsy based on phlegm-turbidity syndrome. TMR Integrative Medicine 2020, 4: e20007.

**Executive Editor:** Rui-Wang Zhao.

**Submitted:** 26 February 2020, **Accepted:** 31 March 2020.

## Trace to source

Epilepsy is a chronic neurological disorder in which seizures are often accompanied by convulsions, eye rolls, winks, and dyspraxia. The mechanism of epileptic seizures is very complex and has not been fully elucidated yet. Previous studies have reported that it may be closely related to neurotransmitters, ion channels, etc. [1]. Epilepsy belongs to the category of “epilepsy syndrome” in traditional Chinese medicine (TCM), which is a kind of chronic brain disease whose main clinical manifestations are when a person suddenly throws down, froth at the mouth, mydriasis, two on the turn or deflect side, stiffness, fist began to twitch. Additionally, it is a self-limited disease with characteristics of recurrent seizures [2]. According to Chinese medicine, the etiology of epilepsy mainly includes congenital factors, emotional disorders, food disorders, and pathogenic environment evils or brain trauma, which may lead to the adverse disorder of Qi, the accumulation of wet phlegm, congestion of the meridians and collaterals, which further lead to brain damage and epileptic seizures.

The term “phlegm-turbidity” was first used by Li Dianguai, a Chinese medicine master, who believed that phlegm-turbidity, as a pathological product and pathogenic factor, disturbs the internal environment of the body, breaks the balance of Yin and Yang in the human body, and affects the circulation of Qi, blood, and body fluid. “Turbid” refers to the water valley in the subtle, thick, turbid part; the second refers to the breath or exhaust gas. And “phlegm-turbidity” comes from TCM (turbid evil and poisonous evil). Zhang Zhongjing holds that, the phlegm-turbidity comes from the stasis of Qi in the *Jin Gui Yao Lue* [3]. In the *Jin Gui Yao Lue* chamber, it also recorded that “poison accumulate when the Qi stasis” [4].

In the past dynasties, doctors have expounded turbidity and phlegm, respectively, but they have not discussed or studied “phlegm-turbidity” as a whole concept. “Phlegm-turbidity” is neither pure turbidity nor pure phlegm; it has both the nature of turbidity and characteristics of phlegm [5]. The modern basic theory of TCM does not mention the term “phlegm evil” but only mentions the word “phlegm” when discussing the nature of wet evil and pointing out “wet and heavy turbid”. Turbid means dirty and unclear, which refers to the disease caused by wet evil and is prone to turbid secretion and excreta [6]. Phlegm is Yin while turbidity is Yang; they are closely related to the Yin and Yang cement disease. Turbidity is the weight of dampness, while poison is the pole of heat [7]. Due to similar nature, the two easily support each other. Therefore, turbidity and phlegm are believed to be the same.

## Etiology and pathogenesis

Phlegm-turbidity is caused by the invasion of external evil, emotional disorders, or Qi deficiency and decline, resulting in Qi and blood disorder in the body, the accumulation of wet phlegm and heat for a long time, and the accumulation of poison, with the rise and fall of gas, brain damage and epileptic seizures. Professor Pei Lin [8] thinks that phlegm-turbidity, as a pathogenic factor, can easily block the Qi mechanism in the viscera and consume gas to form stagnant veins in the meridians and block the movement of Qi and blood, consume gas and Yin in the Qi and blood, involve the camp and health, and injure people with phlegm-turbidity, which then allows a person to be violent and fickle, to be confused for a long time and to be combined with phlegm and dampness, phlegm-turbidity is also a kind of pathological product. It participates in the metabolism of toxicant, which leads to the disorder of viscera function and the disorder of Qi and blood circulation. The metabolites cannot be discharged in time, which leads to the long-term disease. It is turbid, dirty, and thick; it is poison, stale, and harmful. They are similar in nature. They easily grow and help each other. They are masochistic and integrated. They are also called phlegm-turbidity [9].

## Phlegm-turbidity causes epilepsy

The generation of phlegm-turbidity is always accompanied by Qi deficiency, evil exuberant, emotional disorder, or the invasion of exogenous evil. In a review on fever, it is mentioned, “the healthy Qi is kept in, the evil cannot be done; when gathered together, it will lead Qi deficiency, which means chronic fatigue syndrome in modern medicine” [10]. The deficiency and decline of positive Qi is the internal basis of epilepsy, while the prosperity of evil Qi is the important condition of epilepsy. In the healthy human being, Qi and blood are sufficient, which makes it difficult to invade, and disease cannot happen. If Qi is insufficient, it results in the imbalance of Zang-Fu organs, muscle and vein loss, Qi and blood loss, endogenous phlegm turbidity, and modifiable turbidities. Abnormal emotions often directly affect the corresponding Zang-Fu organ. It does not only affect the Zang-Fu Qi machine operation but also hinder Zang-Fu body fluid essence gas distribution which turns into endogenous turbidity poison.

Professor Pei Lin [11] believes that diet, emotion and external circumstances can interfere with the balance of Qi in Zang-Fu organs. The spleen is the “source of phlegm”, spleen Qi deficiency will lead to phlegm turbidity, which will lead to the failure of body fluid, then turbidity accumulated in the body. The lung is the “phlegm storage device”, lung Qi deficiency will lead the failure of Qi circulation, then cause the phlegm detained in vivo organization. Kidney is the “root of phlegm” and is in charge of the opening and

closing of passes and portals in the body for the Yang Qi transpiration of the kidney. The normal operation of the function of kidney gasification is to ensure normal opening and closing. The transport of the spleen or the rise and fall of the lung all depends on the role of the gasification of the kidney. Once the kidney is opened and closed, the kidney fails to perform its duty in gasification, which results in the abnormality of fluid metabolism, then form the phlegm [12]. Wu Kun pointed out in the *Yi Fang Kao* that “phlegm will block the normal fluid circulation in the body, which leads to various diseases” [13]. Ye Tianshi further pointed out in *Wen Re Lun*: “combination of wet, the stagnation of phlegm will form into phlegm-turbidity” [14].

Phlegm-turbidity accumulation is the onset of the disease. The phlegm-turbidity can spread everywhere along with the rise and fall of Qi. It can flow in the whole body from the internal organs, meridians, and collaterals, to the limbs and muscles. It is hidden and thus difficult to detect. Once it is exposed, various symptoms will be identified, and various syndromes will be formed [16]. Phlegm, food accumulation, water dampness, and other stasis in the body turn heat into poison for a long time. The consumption of body fluid and Qi and blood in the body causes blood stasis, organ damage, body damage, and brain damage and then produce phlegm-turbidity. Phlegm-turbidity is cemented in the body, which disturbs the brain and leads to epilepsy; in the middle, it hinders the Qi, the fluctuation is out of balance, and the liver is out of tune and reverses, which then leads to epilepsy; in the bottom, it damages the essence, the metabolism of fluid is out of balance, which then again leads to epilepsy.

## Treatment

Professor Pei Lin believes that the treatment of phlegm-turbidity should be based on the theory of phlegm and turbidity, combined with clinical practice, and flexibility in medication according to different symptoms. Phlegm-turbidity causes disease, which can be divided into turbid and turbidity. When suffering with turbidity, their faces will be dark, their hands and feet will be cold, their eyes will be half open and half closed, there will be a lot of phlegm, their chest will be stuffy and weak, they will faint and be anxious, they will be tired after waking up, or they will likely be ordinary people. If the poison is more serious than turbid, the patient will have epilepsy with a purplish red or crimson complexion and then turn to cyan or pale, blue lips, closed teeth, two eyes, stiff neck and back, twitching limbs, irritability, restlessness and insomnia, expectoration, and headache after the attack. Based on the above understanding, Professor Pei Lin breaks the previous theory of phlegm-turbidity, which only emphasizes the pathological characteristics of “phlegm” and “turbidity” and not only highlights the

causal and pathogenic attributes of “turbid” and “poison” but also believes that “phlegm-turbidity” is the state of human pathological changes, the result of the internal environment disorder, and the internal environment imbalance, which leads to the production of “phlegm-turbidity”. It is considered that phlegm-turbidity is refractory and stubborn. In the treatment, phlegm-turbidity should be separated from phlegm and turbidity, so that the pathogenic factors are relatively isolated. Therefore, the treatment of epilepsy should be based on the treatment of phlegm-turbidity and detoxification and on the dredging of the liver, regulating the Qi, and clearing the orifices, taking into account as a whole.

For those with heavy turbidity, aromatic products should be used to get rid of turbidity, such as Huoxiang (*Herba pogostemonis*), Peilan (*Herba eupatorii*), Hegeng (*Nelumbo nucifera gaertn*), and other drugs to aromatize the turbid, invigorate the spleen, and regulate the Qi; for those with heavy toxicity, bitter cold products should be added, such as Huangqin (*Scutellaria*), Jiaogulan (*Gynostemma pentaphyllum*), Dahuang (*Rhubarb*), Kushen (*Sophora flavescens*), and other drugs to clear away heat, dry and damp, relieve fire, and detoxify. In order to block the growth of the source of phlegm-turbidity, we can use the products for invigorating the spleen and removing dampness, such as Huangqi (*Astragali radix*), Baizhu (*Atractylodes macrocephala*), Cangzhu (*Atractylodes lancea*), Sharen (*Amomum*), and the like. Invigorating the spleen and removing dampness and detoxification can strengthen and protect the healthy Qi. In view of liver laxation and dereliction of duty, the following products should be used to regulate Qi: Chaihu (*Bupleuri radix*), Xiangfu (*Rhizoma ciperi*), Yujin (*Curcuma*), and so on. These soothe the liver and relieve depression, regulate Qi, and widen the middle. To calm the liver and the wind, Tianma (*Gastrodia elata*), Lingyangjiao (*Antelope horn*), Gouteng (*Uncaria*), and so on should be added. This calms liver Yang and epilepsy. For those who suffer from blood stasis due to long-term illness, the products that can activate blood and clear the orifices, such as Chishao (*Paeoniae radix*), Danshen (*Salvia miltiorrhiza bunge*), Chuanxiong (*Ligusticum hort*), and so on should be added. These activate blood and remove blood stasis and clear the orifices and phlegm. In addition, for those with fullness of the stomach, foul breath, and dense stool, the method of clearing the viscera and removing the turbidity can also be used. Dahuang (*Rhubarb*), Mangxiao (*Glauber's salt*), Houpo (*Magnolia officinalis*), and other drugs can be used to make the phlegm-turbidity come out of the stool. For those with edema of the limbs and adverse urination, the method of moistening and removing the phlegm-turbidity can be used, such as Fuling (*Poria cocos*), Yiyiren (*Semen coicis*), and Zexie (*Alismatis rhizoma*) to make the phlegm-turbidity come out of the urine. For those with

body pain, dizziness, and no perspiration, the method of releasing the phlegm-turbidity can be used. The method, such as Guizhi (*Ramulus cinnamomi*), Jingjie (*Schizonepetae herba*), Fangfeng (*Radix saposhnikoviae*), Zisu (*Folium perillae*), and so on makes the phlegm-turbidity penetrate through the surface.

## Conclusion

With the continuous development of modern society, various diseases appear with new causes and pathogenesis, which requires us to see things at a different angle and develop new vision, new theories, and new approaches to solve the problem. As an emerging topic in the basic theory of TCM, the theory of phlegm-turbidity not only provides new ideas and directions for clinical treatment of epilepsy but also lays a theoretical foundation for the improvement of the theory of TCM.

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