

How to diagnose anxiety disorder with Chinese medicine tongue tassel line

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Abstract—Tongue tassel line is an important part of the content of tongue diagnosis, however, there's few works about tongue saliva accumulation in ancient and modern tongue diagnosis literature. As the accelerated pace and increased pressure of modern life, the population in anxious state is increasing and anxiety disorder incidence rate is rising gradually. Combing the relevant clinical reports of tongue tassel line, this paper aims to discuss the etiology and pathogenesis, summarize its application in clinical diagnosis and prevention of anxiety disorder.

Keywords- tongue diagnosis; anxiety; prevention

I. INTRODUCTION

Tongue tassel line is named white saliva on the tongue-edge [1], a clue tape of formations of condensed saliva bubble on both sides of the tongue within about 5mm. From both sides of tongue tip inward extended up to an inch, the tongue tassel line is clearly visible, not hard to identify (Figure 1). It can reappear rapidly from the vanishing state because of speech and diet, which is similar to the tongue-edge white saliva said by the ancient Chinese doctor Danxi Zhu.

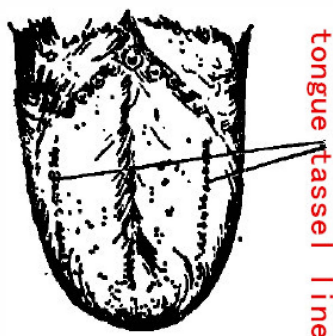


Figure 1. Diagrammatic sketch of tongue tassel line

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Tongue tassel line is an important part of the content of tongue diagnosis. There's few literature about tongue saliva accumulation in ancient and modern tongue diagnosis literature expect the description about tongue substance, tongue coat, tongue shape, tongue mobility, sense of taste, blood stasis in sublingual collaterals, tongue body fluid and other aspects.

II. OVERVIEW OF TONGUE TASSEL LINE

A. First report of tongue tassel line

Shunfu Du is a famous Chinese Medicine doctor. He discovered a kind of phenomenon in clinical that if the patients accompanied with emotional symptoms in different degree, the patients' saliva always exhibited just like tassel line arrangement on the tongue. After the discovery, he named the tongue-edge white saliva tongue tassel line firstly and reported the relationship between tongue tassel line and emotional diseases. In the theory, he proposed that the appearance of tongue tassel line was closely related to emotional disease, tongue tassel line was considered as the barometer of emotional changes [1].

B. Classification of tongue tassel line

In clinical, the method of tongue tassel line is complemented gradually. Zhenxing Zhao is another Chinese Medicine doctor. He considered that the tongue tassel line reflected a disease symptom, the imbalance of Zang and Fu, qi and blood, Yin and Yang, which were caused by the seven emotions stimulations [2]. According to his clinical experience, doctor Zhao graded the tongue tassel line as followed:

- I degree: saliva foam particles are coarse, such as the size of mung bean, the white saliva line width is about 1-2mm, thickness is about 1-2mm, intermittent incoherence, it can disappear after repeated sticking the tongue within 20min. This kind phenomenon suggests the emotion diseases are formed for 1 week to 3 months.
- II degree: saliva foam particles are moderate, such as the size of miliary, the white saliva line width is about 2-3mm, thickness is about 2-3mm, uninterrupted coherence, it won't disappear and it

will only change the shape after repeated sticking the tongue within 20min. This kind phenomenon suggests the emotion diseases are formed for 3 months to half a year.

- III degree: saliva foam particles are fine, such as the dense of powder, the white saliva line width is about 3-5mm, thickness is about 3-5mm, the line exists from the tip of the tongue straight through to the root of the tongue, its shape won't change after repeated sticking the tongue within 20min. This kind phenomenon suggests the emotion diseases are formed for half a year to 3 years.

C. Application development of tongue tassel line

Liangchun Zhu is one of Chinese medicine master. During decades of medical profession career, he summarized the experience through continuous exploration, proposed the diagnostic method of the tongue-edge white saliva, which was the syndrome that phlegm coagulation resistance and qi stagnation. Through the tongue manifestation, the doctor could differentiate the syndrome of diseases, just as estimating interior by taking charge of exterior [3]. In the clinical, as long as he found the tongue-edge white saliva, he would describe the herbs to eliminate the phlegm dampness and regulate the qi stagnation. The diagnostic method of tongue-edge white saliva had good clinical effect. The diagnostic method of tongue-edge white saliva used by him is also the clinical reports of tongue tassel line reported before.

Doctor Jingfeng Liu applied tongue tassel line combing with herbs Yeyu Decoction to cure insomnia caused by emotional factors. The method always had significant effect [4]. With the application of tongue tassel line, we not only get the causative factor quickly, but also obtain the patients' confidence to tell about the disease history more accurate.

III. ETIOLOGY AND PATHOGENESIS OF TONGUE TASSEL LINE

A. Distribution of saliva

Saliva is mainly secreted by salivary glands. Human body has multiple salivary glands, parotid, submandibular and sublingual gland are the main production organ of saliva. The secretion of saliva is controlled by the cerebral cortex and it is also affected by emotion, diet, environment, age and salivary gland lesions. In addition to water, saliva also contains ptyalin, mucopolysaccharide, mucin, lysozyme and a variety of trace elements, etc.

According to the clinical examination, the oral PH value of patients in the syndrome of fluid retention tends to acidic [5]. The reason why the saliva on both sides of the tongue are arranged in tassel line, maybe the composition and PH value of saliva have changed, so its viscosity, formability, surface tension have also changed [1]. In the modern medicine, anxiety, depression, obsessive-compulsive disorder, climacteric syndrome and other neuroses can cause plant nerve disorders and metabolic disorders, causing the changes of saliva secretion and composition [6].

B. Relationship between fluid and qi

The white saliva on both sides of the tongue is considered as a specific marker of the tongue tassel line. Under normal circumstances, the tongue nature is pale red, the tongue coating is thin white and the tongue coating humidity is moderate. This suggests that human blood and body fluid are engorged, the function of viscera organs is normal. The white saliva condenses into linear formation, which shows the symptom of body fluid retention resulted from the fluid movement disturbance in the human body.

Saliva is a kind of body fluid. Body fluid is emerged by the spleen and stomach. Qi can be seen to have five basic functions, activation, warming, defense, transformative action and containment. It can promote the generation, distribution and excretion of body fluid. Qi advances the body fluid circulation. The qi ascending-descending and coming in-going out movement can push forward the distribution and excretion of body fluid, which is the energy of body fluid distribution in normal operation. Both deficiency and stagnation of qi can cause fluid distribution and excretion disorder, retention of water dampness, endogenous phlegm. In pathology, we call this condition qi can't transport water or qi can't transform water. At the same time, body fluid can carry qi and also transform qi. Body fluid is the basic material of gasification. For any reason, the distribution and excretion disorder of body fluid can damage the ascending-descending and coming in-going out movement of qi, which is called fluid stasis leading to the qi stagnation.

C. Relationship between liver and gallbladder, qi and fluid

The liver and gallbladder are the foundational visceral organs to soothe and regulate qi of human body. Danxi Zhu, a famous ancient Chinese medicine doctor, said liver controlling conveyance and dispersion. Liver belonging to the wind, it has the nature of adjustment, hyperactivity, not depression. Gallbladder is one kind of hollow fu-organ that containing refined juice. The character of gallbladder is dredging inside and outside of the human body. The qi of liver and gallbladder plays an important role in regulating the qi movement of the body by dispersing and dredging inside and outside.

Liver and gallbladder take charge of catharsis, which means dredging, abreacting, ascending the qi in the body. Although the spleen and stomach are considered as the key position to regulate the activities of qi, the qi movement of the spleen and stomach also depends on the dispersion function of the liver and gallbladder. Without liver and gallbladder, the spleen couldn't ascend the nutrient substance and the stomach couldn't descend the turbid substance. Just as Chinese medicine doctor Xuehai Zhou said all the gasification function of viscera and twelve meridians should take advantage of the qi of liver and gallbladder and there would be no sick only in this way.

Body fluid is emerged by the spleen and stomach. The spleen and stomach are located in middle Jiao, transporting and transforming the essence of water and grain. In Chinese medicine work dysmenorrhea due to blood stasis, some words were written as followed, liver controls conveyance

and dispersion. Food eaten into the stomach is transformed into nutrient substance depending on the function of liver and gallbladder. If lucid Yang of liver fails to rise, then the essence material couldn't be transformed. Consequently, the liver and gallbladder play an important role in the fluid regulation and distribution.

D. Relationship between tongue tassel line and anxiety disorder

The normal transportation of body fluid is dependent on the promoting function of qi. The appearance of tongue tassel line reflects the dysfunctional gasification, which means that the qi can't promote the fluid normally. Different zang-fu organs are reflected in different parts of the tongue body. Both sides of the tongue body stand for the liver and gallbladder. The tongue tassel line appears on both sides of the tongue body. This condition illustrates that diseased region locates in the liver and gallbladder. Therefore, the phenomenon of the tongue tassel line is due to the liver and gallbladder lesions. In TCM theory, the liver and gallbladder belong to the character of wood, liking unobstructed and hating depression. The liver governs dredging and the gallbladder governs judgment. Both of them are the axis of the body qi. They play an important role in harmonizing the emotional changes. Anxiety disorder is caused by the imbalance of liver and gallbladder qi. Qi can circulate the movement of body fluid. Emotional maladjustment can lead to disorder qi movement easily. Consequently, the body fluid condenses to phlegm. At the same time, the body fluid can transport the qi. The condensed phlegm can block the qi action. Moreover, the disorder qi movement can aggravate the syndrome of phlegm dampness obstruction.

The liver governs emotion. The essence and blood are taken as the material foundation of the emotional activities and the qi is considered as the function foundation. The emotional activities should draw support from the promoting function of qi. The liver governs dredging, regulating the qi and blood. On one hand, normal emotional activities rely on the well-balanced movement of qi, blood and body fluid. On the other hand, the abnormal emotion can also affect the liver function and then disturb the normal movement of qi, blood and body fluid. Thus the clinical manifestation of tongue tassel line appears (Figure 2 and Figure 3)..

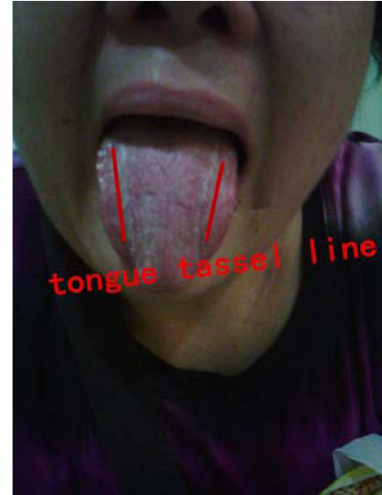


Figure 2. Photograph 1 of tongue tassel line in the person with anxiety disorder



Figure 3. Photograph 2 of tongue tassel line in the person with anxiety disorder

IV. CLINICAL APPLICATIONS

The theory was pointed out in the book plain questions that rage driving qi upward, excessive joy leading to qi loose, grief causing qi depression, terror causing qi disorder, pensiveness leading to qi knotting. Different pathogenic factors can lead to different clinical manifestations. However, imbalance qi movement is the main mechanism of emotional diseases. The words that emotion movements were normal temperature of people and pent-up anger was emerged from the viscera and performed limbs outside were written in book treatise on three categories of pathogenic factors. Visibly, disorder qi movement is the early pathogenesis stage of anxiety disorder. This disorder is functional lesion or in the early stage of chronic physical diseases. In TCM theory, an excellent doctor is expert in regulating qi. Regulated qi

can prevent disease. Similarly, the famous sentences that the sage only treated the not-formed disease not the formed disease and it was too late to treat the formed disease just like to take measures only when in urgency were also written in the book Plain questions. Tongue tassel line will gradually disappear with the improvement of disease, which also provides some reference for the prognosis of the disease.

With the development of national economy and the acceleration of social life pace, people's psychological pressure increases obviously. Population in anxious state is increasing and anxiety disorder incidence rate is rising gradually. Anxiety disorder leads to high blood pressure, insomnia, hysteria, loss of appetite and other diseases, which affect the normal life of people seriously. However, in clinical diagnosis, while describing the etiology and clinical history, many patients may forget or hold back some previous emotional stimulation. This condition brings much inconvenience to the doctor. In book deserted house medical talks, Chinese medicine doctor Yitian Lu of Qing Dynasty mentioned that tongue diagnosis was the most reliable in the clinical. Tongue diagnosis is an important content of TCM diagnostics. It reflects the TCM concept of wholism. We can diagnose the internal disease as early as possible according to the diagnosis method. If the key pathogenic factor can be found out according to the clinical manifestations of tongue tassel line, thus the doctor can prescribe treatment according to the symptom. In this way, the clinical efficacy can be

improved significantly. In short, tongue tassel line not only plays an important role on diagnosis, but also the prognosis and prevention of anxiety disorder.

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