

## Can a modern doctor understand traditional Chinese medicine?

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Currently, in clinical practice, traditional acupuncture and moxibustion are widely used, as well as various hardware diagnostic and treatment methods, which are based on the theory of traditional Chinese medicine (TCM). However, the unusual terminology and concepts used in TCM hinder its widespread implementation in practical health care.

As you know, traditional Chinese medicine assumes the presence in the body of humans and animals "Channels and organs". Circulates through the channels "Energy and blood", ensuring the normal functioning of the relevant bodies. Among the leading causes of the disease are "Heredity", "excessive emotions" and "external damaging factors". Any diseases of the channels can be described as "violation of the circulation of energy" and the formation of its excess - "fullness" or lack - "emptiness". In case of organ disease, additional parameters are introduced "Heat" and "cold". Treatment procedures aimed at recovery

"Energy homeostasis".

They are

accompanied by sensory reactions described as a phenomenon "Movement energy".

1. Terms TCM have a broad meaning, only out of context considered understandable phenomena. Used in TCM theories are mathematical modeling describing the most common physiological and pathophysiological laws.

Applying "algebraic" formulas TCM, can find individual ways to achieve therapeutic effect at different diseases, including those for which the issues of etiology and pathogenesis have not been resolved, where there are difficulties with the establishment of a nosological diagnosis, and adequate methods of modern examination and treatment have not been developed.

2. The basis of the acupuncture point (TA) is formed by a loose connective tissue interspersed with a large number of nerve receptors and free nerve endings, a developed vascular system of the microvasculature, cellular elements containing biologically active substances, and an accumulation of gap junctions [4, 9].

3. A number of acupuncture specialists who adhere to reflex theory, they consider the channels to be an imaginary line connecting functionally close points, the real connection between which is formed through the neurohumoral system [5, 13].

At the same time, there are experimental data indicating the possibility of not only functional, but also anatomical connection between points belonging to the same canal. It is known that sensory reactions occurring during acupuncture propagate along the canal projection [14]; electric current [8]; visible electromagnetic waves [6]; radioactive isotopes [15], etc.

It can be assumed that the channels it is a system of "gaps" stretching between other well-known anatomical structures. The surfaces of fascia, muscles, bones and other structures, as well as individual cellular

elements form the "outer walls" of these "gaps", and their inner space is filled with connective tissue, interstitial substance, electrolyte solutions and structured water [11].

The conduction of low-frequency electrical signals is provided by nerve fibers, and the transmission of high-frequency signals generated cell membranes, probably waveguide structures, which on "Slotted" or is confirmed by experimental works [1, 6, 7]. a number of theoretical and

Summarizing the above, we can conclude that what theory "Channels and collaterals " describes the physiology and pathology intercellular space, modern usually out of sight medicine.

4. The concept of "ORGAN" includes traditional Chinese medicine much broader meaning than a specific anatomical formation.

Each cell of a multicellular organism has a standard set of subcellular structures, for example, the nucleus, mitochondria, Golgi complex, plasma reticulum, etc. Each organelle has a certain set of functions. The function of oxidative phosphorylation and the synthesis of ATP molecules is carried out by mitochondria; protein synthesis and transport is realized in the endoplasmic reticulum; accumulation of proteins, synthesis of polysaccharides and more complex compounds occurs in the Golgi complex; the function of regulation development, differentiation and dying of the cell belongs to the nucleus.

In most cells, the function can be distinguished breathing, corresponding to the "lungs", the function of synthesis and storage of complex compounds, corresponding to the "endocrine glands" and "liver", the function of regulating the age of the cell, corresponding to the "kidneys", etc.

Thus, the term "organ" in TCM must mean the entire set of cellular and subcellular structures that ensure the implementation of certain functions. For example, "lungs" include all structures providing diffusion and transport of gases (O<sub>2</sub> and CO<sub>2</sub>), as well as the process of oxidative phosphorylation with the formation of ATP molecules. Therefore, regardless of the pathogenesis of the "shortness of breath" symptom, its treatment is carried out using the points of the "lungs" canal.

5. In TCM, due to the variety of processes occurring in the human organism, to assess the patient's condition, a syndromic approach is used and an integral parameter is introduced - "Qi", similar to "a single control parameter " in the theory of cybernetics. The same universal parameter "Qi" characterizes the ability of cells to perform a certain work, ie. produce and recycle a universal energy source an ATP molecule. The use of the concept "Qi" makes it possible to compare different characteristics of the analyzed object. This comparison is made not in numbers, but in comparative categories: "more", "much more", "less", "much less" or "equal".

Thus, "Qi" it is a single control parameter, universal unit comparisons, as well as index energy status of the biological object under consideration.

Introduction of additional parameters "heat" and "cold", allows differentiate predominance in organism exothermic or

endothermic reactions, including the relationship between oxidative phosphorylation (ATP synthesis) and free oxidation (heat release).

6. In modern physiology, there are two theories describing reactions of an organism on external influences, this is the dominant A. Ukhtomsky and parabiosis N. Vvedensky:

- the state of the dominant is characterized by the involvement of a relatively large amount of energy and structures in the pathological process; to achieve a therapeutic effect, it is necessary to exert an energetically strong effect, since weak stimuli lead to an increase in the dominant focus;
- the state of the paradoxical phase of parabiosis is characterized by the involvement in the pathological process of a relatively small (due to depletion) amount of energy and structures; to achieve a therapeutic effect, it is necessary to exert an energetically weak effect, since a stimulus of high and medium power can go unnoticed or lead to the death of the organism.

In other words, the system can be in an agitated or inhibited state, the treatment of which requires different effects.

In TCM, diseases with a relative excess of energy are described as a state of "fullness", and diseases with a relative deficit as a state of "emptiness". In the first case, a braking effect is required, in the second - a tonic one.

7. In TCM, a group of diseases caused by external causes is distinguished. These are meteorological factors: heat, cold, dryness, dampness and wind. With the help of these terms, the types of human response to the influence of heliocosmic factors were described: heat and cold reflect heat production, dryness and dampness - water homeostasis, and wind - characterizes the lability of the parameters of the patient's body.

The experiment showed that the main acceptor of helio-cosmic factors are the water molecules of the biological object [2], in other words, the same factors act on the water vapor molecules in the atmosphere, changing weather conditions, and on the patient's body, causing pathological processes in it.

8. Combining the theory of "dominant" and "parabiosis", G. Selye described the general patterns of development of an acute disease, highlighting the phases of "anxiety", "adaptation" and "exhaustion" [10].

In TCM, the stages of progression of an acute illness caused by external factors are described by the 6-channel theory in the treatise "on fevers caused by cold" [16]. The first three levels are characterized by

clinical	manifestations,	appropriate	activation	sympathetic
adrenal system (ie the phase of "anxiety" according to Selye),	the last	three	are characterized by clinical manifestations corresponding to	level
sympathetic activity adrenal and vago-insular systems (ie the phase of "exhaustion" according to Selye).				decrease

Thus, understanding the complexity of the structure and functions of the human body, the doctors of ancient China were able to describe the most general mechanisms of the development of pathological processes. It is hoped that the analysis will help the modern doctor to adequately perceive the TCM theory and successfully

realize individualization of treatment at use of methods  
traditional and hardware impact on reflexogenic acupuncture points and  
zones.

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