Providing a constitutional approach to prevention and rehabilitative treatment. Publication 2. Model for determining the constitutional type of a person based on data electropunctural diagnostics

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#### **SUMMARY**

The proposed model for determining the constitutional type of a person (CPT) is based on the identification of individual abnormal deviations of the electrocutaneous resistance (ECR) of the distal measuring points of the acupuncture canals (AC). The ratio of the sums of the EKS of Yang and Yin AK determines the integral archetype of a person, expressed by the value of the vegetative electropuncture indicator (VPepd). The segmental electropuncture index (SPepd) is used to assess the organ vegetative statuses. The developed model provides a constitutional approach to prevention and rehabilitation treatment based on the data of electropunctural diagnostics (EPD).

Key words: human constitution, traditional oriental medicine, electropuncturediagnostics.

### Resume

The offered model of definition constitutional type of the person (CTP) is based on revealing of individual abnormal deviations of electroskin resistance (ESR) in distal measuring points of acupuncture channels (AC). The parity of sums ESR Yang's and Yng's AC defines the integrated archetype of the person expressed by the value of vegetative electropunctural indicator (VPepd). For estimation the vegetative statuses of organs segmentary electropunctural indicator (SPepd) is used. The offered model provides constitutional approach to preventive maintenance and regenerative treatment on the basis of electropunctural diagnostics data ..

Keywords: constitution of the person, traditional east medicine, electropunctural diagnostics.

# Introduction

Terminological differences in the descriptive characteristics of the constitutional type of a person (CCT) in Indian, Chinese, Tibetan and Mongolian traditional medicine mask two common dialectically common basic principles. In the first of them, the correlation of the qualities and states of a person with certain natural-philosophical categories, designated as "primary elements, primary elements, energies, transitions" and some other terms, is used as the primary basis [1]. An illustration of the productive use of this principle can be a description of CTB based on the functional activity of eight extraordinary acupuncture channels (AC), correlated with certain primary elements. The proposed model for determining the CTF assumes the possibility of determining personal characteristics, goals and type of response, as well as the development of pathological conditions [2]. Based on the concepts of traditional Chinese epistemology about the correspondence of daily, seasonal, annual, 12 and 60-year cycles to the properties of the five primary elements, Yu.V. Gotovsky, V.V. Ilyukhin and K.N. Mkhitaryan developed a method for determining the CTF, which is implemented by the chronobiological software package "Astromed-M" [www.imedis. ru]. The method is an astrological medical forecast based on a person's date of birth.

The second principle that unites the methodologies of various schools of traditional oriental medicine is the division of functional states and diseases into Yang (hot) and Yin (cold). In contrast to the insufficiently developed modern natural-scientific interpretation of the concepts of primary elements, the Yang Yin categories are quite clearly associated with ergo- and trophotropic processes - the balance of sympathetic and parasympathetic tones of the autonomic nervous system (ANS). Consequently, this principle can be correlated with the modern classifications of CPC, built on the basis of the balance of ergo and trophotropic activities of the ANS - sympathotonic, vagotonic, and eutonic; sprinter, stayer and mixed. This approach, corresponding to some principles of CT scan, can be reproduced by various methods of reflex diagnostics [3, 4, 5, 6, 7],

The purpose of this work was to develop a model for determining the CTF based on data electropuncture diagnostics (EPD), which allows to determine the most vulnerable organs and systems of a person, a probabilistic prognosis regarding the nature of possible diseases, the tactics of their constitutional prevention and rehabilitation treatment.

### Results and discussion

As a result of a retrospective analysis of the data obtained during the development of the original EPD method "Forecast" [8], reproducible deviations of the electrical skin resistance (ECR) of the distal measuring points of some ACs were revealed in healthy people. In general, such "abnormal" AK are defined as channels, the indicators of functional activity of which deviate from the average value (Rsr.) by an amount greater than the threshold value (Acrit). Analysis of the results of repeated EPD procedures made it possible to establish two different types of dynamics of such "abnormal" AK.

The first type - stable dominance of the group of "abnormal" AKs was reproduced with insignificant variations during repeated EPD procedures. Parallel analysis of personal data showed that the probability of registration of this type was independent of the state of health and any significant actual life events. The second type of emergence of a group of "abnormal" AK could be associated with natural physiological rhythms, recent illnesses or any other actual life events. Permanent "anomalies" could be registered in AKs belonging to both the "yin" and "yang" categories, which gave reason to designate them as relatively stable constituents of the constitution - the CTFs of the "yin" and "yang" archetypes, respectively.

To test the working hypothesis that abnormal AKs belonging to the "yang" or "yin" categories reflect, respectively, the predominance of sympathetic or parasympathicotonia, the "vegetative electropuncture indicator" was used, calculated on the basis of relation (1).  $VP_{\rm epd} = \begin{cases} S_{\rm ying} / S_{\rm yang} - 1, & ecnu \ S_{\rm ying} > S_{\rm yang} \\ 1 - S_{\rm yang} / S_{\rm ying}, & ecnu \ S_{\rm ying} \le S_{\rm yang} \end{cases}, \quad (1)$ 

$$VP_{\text{epd}} = \begin{cases} S_{\text{ying}} / S_{\text{yang}} - 1, & ec.\pi u S_{\text{ying}} > S_{\text{yang}} \\ 1 - S_{\text{vang}} / S_{\text{ving}}, & ec.\pi u S_{\text{ving}} \le S_{\text{vang}} \end{cases}, (1)$$

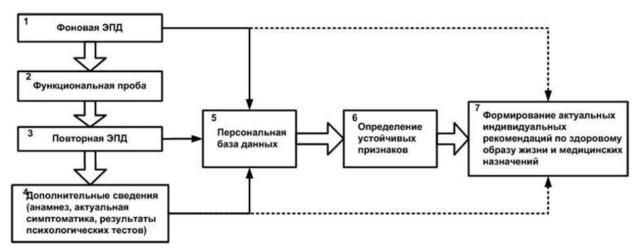
where Sying - the sum of the measured values of the ECS of all "Yin" AK;

Syang - the sum of the measured values of the ECS of all "Yang" AK.

Considering that the concepts of "emptiness" and "hypofunction" are identified with higher values of the pacemaker, a larger total pacemaker of Yin AC points shows the prevalence of the category "yang" in the AC system, which, according to relation (1), is reflected in the VP values<sub>epd</sub> with a (+) sign. The prevalence of the "yin" category is manifested in negative VP values<sub>epd</sub>... The results of univariate analysis of variance confirmed the hypothesis about the correspondence of the autonomic balance estimates by the methods of heart rate variability and EPD.

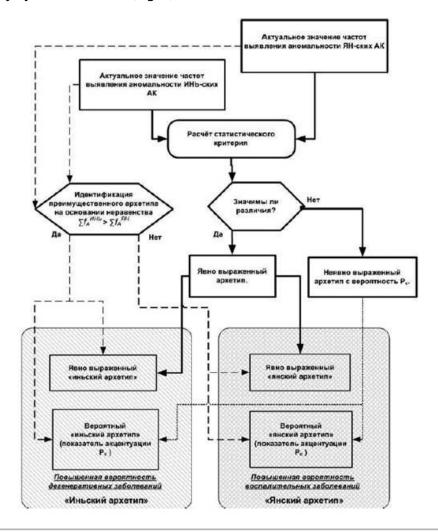
Establishment of the dominant type of autonomic regulation in a state of relative rest is a necessary, but not sufficient condition for determining the CTF. The doctrine of restorative medicine dictates the need to determine the dominant type of response of the ANS to disturbing influences. Studies using functional tests in the form of the PWC170 test [9] were a prerequisite for the introduction of the concept of dynamic CPC - CPCd. KTChd is a relatively dynamic component of the psychophysiological constitution, defined as a sustainably reproducible change in the functional state of the AK group in response to homogeneous external disturbing and controlling influences.

The general schematic diagram of the proposed model and the claimed method for determining the CTF (application for invention No. 2009123207/14, priority dated 06/18/2009) is shown in Fig. 1.



Rice. 1. Schematic diagram of the claimed method for determining the psychophysiological constitution person based on EPD data.

The identification of AKs reflecting CTCHs is carried out by repeated (at least three) EPD procedures in the course of treatment, dynamic medical control or other routine medical examinations. To determine the CTF, relatively adynamic AAs are chosen, - the indicators of functional activity of which maintain stably increased or decreased values in comparison with others - relatively dynamic channels (Fig. 2).



## Rice. 2. Algorithm for identifying KTCHs "Yin" and "Yang" archetypes.

People of the Yin archetype are generally more prone to the development of degenerative processes, diseases of the gastrointestinal tract and hepato-biliary system. The stable predominance of the activity of Yin AA of the upper extremities indicates an increased likelihood of pathological processes in the organs located in the upper body (above the diaphragm). The Yin archetype, due to the predominant activity of the Yin AK of the lower extremities, is considered as evidence of an increased likelihood of degenerative processes in the organs located below the diaphragm. The possibility of probabilistic prediction of these conditions is actualized due to the fact that the degenerative phases of diseases are usually asymptomatic. The transition to the acute phase is manifested by rapidly developing symptom complexes, often requiring aggressive radical interventions. People of the Yang archetype are generally more prone to the development of inflammatory processes and diseases of the cardiovascular system. Stable dominance of Yang AK of the upper extremities, especially in combination with a deficit in the activity of Yin AK, is associated with an increase in the likelihood of pathological processes in the organs of the upper body. If the Yang AKs of the lower extremities dominate, then inflammatory manifestations in the lower trunk should be expected. associated with an increase in the likelihood of pathological processes in the organs of the upper body. If the Yang AKs of the lower extremities dominate, then inflammatory manifestations in the organs of the upper body. If the Yang AKs of the lower trunk should be expected.

When predicting the likelihood of diseases based on CTF, obtained on the basis of the data of Yin-Yang archetypes, it is necessary to take into account the sex of the examined person. The female (yin) body, on average, is more effective at resisting the occurrence of diseases associated with hyperfunction of the Yin group AK and hypofunction of the Yang group AK. In these cases, patients' adherence to recommendations for a healthy lifestyle and the implementation of nonspecific preventive measures are especially effective. During pregnancy and the postpartum period, these recommendations and appointments must be agreed with the obstetrician-gynecologist.

The detection of a stable predominance of the activity of Yang AK in women is a prognostic sign of a decrease in the reserve and compensatory capabilities of the body and can serve as an indication of the advisability of prescribing specialized preventive or rehabilitation measures. Decision-making on these issues is carried out with the specification of the belonging of the identified anomalies of the AK system to KTChd or KTChs. In the first case, one should expect the maximum effectiveness of the prescriptions and the minimum risk of developing adverse side effects of the prescriptions. In the second case, appointments require additional expert advice. Similar associations of Yin-Yang archetypes with the likelihood of diseases and the possibilities of their prevention take place in the male (yang) body.

Revealing of AAs, reflecting KTChd, is carried out by comparing the results of EPD before and after a functional test using physical activity. Considering that the response to physical activity reproduces the individual stereotype of response to a number of other stress-generating factors, changes in the functional state of the AK system can reveal constitutionally weak links in the general adaptive potential of a person.

The closest analogue of our developments is a method for assessing the vegetative status of a person by the values of the cold sensitivity thresholds of auricular TA [5]. Highly appreciating this method, we note that it does not pretend to determine the CTF. In addition, a closer correspondence of corporal measuring points of acupuncture (TA) to segmental autonomic innervation suggests that their pacemaker may serve as more accurate characteristics of local (organ) autonomic statuses as compared to the cold sensitivity thresholds of auricular TA.

In our proposed model for the assessment of organ vegetative statuses in the first approximation, a segmental electropuncture indicator is used (SP<sub>epd</sub>):

$$SP_{\rm epd} = \begin{cases} S_{\rm down} \, / \, S_{\rm up} - 1, & \textit{ecau} \, S_{\rm down} > S_{\rm up} \\ \\ 1 - S_{\rm up} \, / \, S_{\rm down}, & \textit{ecau} \, S_{\rm down} \leq S_{\rm up} \end{cases}$$

where Sdown - the sum of the measured values of the ECS of all TA on the legs;S

up - the sum of the measured values of the EKS of all TA on hand.

Table 1 shows the comparative statistical characteristics of the indicesVP<sub>epd</sub> and SP<sub>epd</sub> in the group of healthy young (12–18 years old) people of both sexes, and in Fig. 3 shows histograms of their distributions.

Table 1

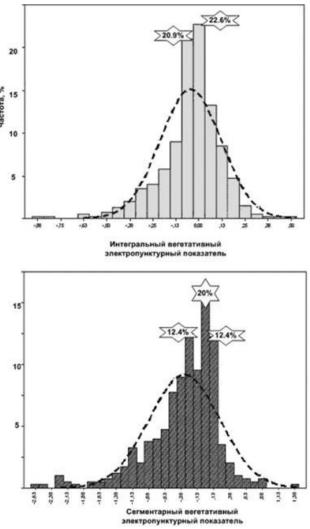
Statistical characteristics of electropunctural vegetative indicators

показатели	Xmin	X <sub>max</sub>	$\overline{X}$	σ
VP <sub>epd</sub>	-0,90	0,50	-0,04	0,17
SP <sub>epd</sub>	-2,57	1,39	-0,32	0,55

Обозначения:  $VP_{\rm epd}$  — интегральный вегетативный электропунктурный показатель,  $SP_{\rm epd}$  — сегментарный вегетативный электропунктурный показатель,  $X_{\rm min}$ ,  $X_{\rm max}$ ,  $\overline{X}$  — минимальные, максимальные и среднеарифметические значения показателей,  $\sigma$  — среднеквадратическое отклонение.

As you can see from the table. 1, both indicators indicate the predominance of parasympathetic tone in the examined group. Such parasympathetic displacement is typical for young, healthy people involved in sports and is seen as an indicator of their high adaptive capabilities. Attention is drawn to the statistically significant (approximately 1.25 times) prevalence of the total pacemaker recorded on the hands, relative to the analogous indicator of the legs. It follows from this that the indicatorSP<sub>epd</sub> is a biased estimate and for the formation of any diagnostic conclusions on its basis, it is necessary to centralize it.

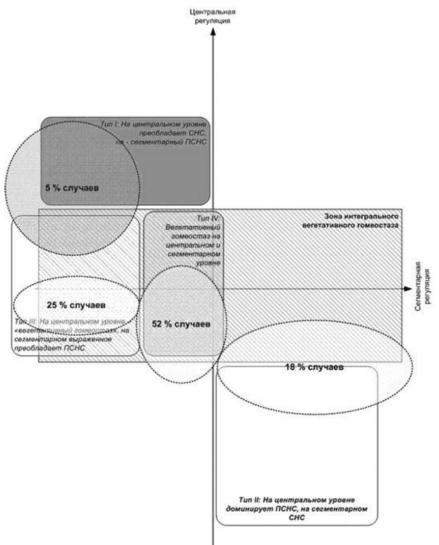
The histograms in Fig. 3 it is possible theoretically to form criterion boundaries forVP<sub>ep</sub>d andSP <sub>epd</sub>... Namely, for the integral indicator, with its values between -0.19 and 0.19, we can talk about autonomic homeostasis, with values less than -0.19, PSNS prevails in the central regulation, and when the indicator exceeds 0.19, there are significant shifts towards sympathicotonia ... Similarly, for the segmental indicator: from -0.42 to 0.19 - vegetative balance, less than -0.42 at the segmental level, parasympathicotonia prevails, and above 0.19 we have "segmental" sympathicotonia. The results of the cluster analysis carried out using the indicated criterion estimates are shown in Fig. 4.



Rice. 3. Histograms of the distribution of electropunctural vegetative indices.

The results shown in Fig. 4 cluster analysis of the integral and segmental levels of autonomic regulation makes it possible to carry out differential prescriptions of both medicinal and non-medicinal therapeutic and prophylactic agents and methods, taking into account the CTF.

The discrepancy between the balances of sympathetic and parasympathetic tones at the central and segmental levels must be taken into account for any prophylactic and therapeutic prescriptions. Reflexology provides the possibility of selective regulation of the balance of the ANS tones through an adequate individual choice of acupuncture points, the method and time of their stimulation. In domestic reflexology, the most popular are two basic principles of the formation of acupuncture formulation: 1) by using control points located on the abnormal AKs themselves; 2) by using the control points located on the AK associated with the abnormal Wu Xing scheme. At the same time, there are no clear rules for choosing the 1st or 2nd principle of constructing treatment-and-prophylactic tactics. Identification of abnormal AK carrying information about KTChs and KTChd,



Rice. 4. Results of cluster analysis for determining the integral and segmental levels vegetative regulation according to EPD data.

Legend: SNS - sympathetic nervous system, PSNS - parasympathetic nervous system.

If abnormal AK correlates with CTCH, then both principles of formation of acupuncture formulation are acceptable. If the abnormal AK reflects the CTF, then the second principle of the formation of acupuncture formulation is recommended (influence on the AK regulating points, coupled with the abnormal one according to the U Xing scheme), or the use of antique points (wu-shu) of anomalous AK. With moderately pronounced anomalies, as a rule, it is sufficient to use any method from the arsenal of reflexology. Strongly expressed abnormalities serve as an indication either of the advisability of complementary use of reflexology with other therapeutic technologies, or of its replacement with any alternative therapeutic approaches (for example, osteopathy).

# Conclusion

The current stage in the development of the theory of CTF is characterized by an integrative approach that combines classical psychosomatics with the latest achievements of basic biomedical sciences. The most popular schools of traditional oriental medicine, in their characteristic terminology, distinguish CTC according to the dominant predominance of sympathetic or parasympathetic tone of the ANS. This approach can be replicated by the currently popular EPD method.

EPD should be considered as a supranosological diagnosis, the data of which contain generalized information about both the current state of the body and its constitutional

properties. Such a constitutional supranosological approach is fully consistent with the goals and methodology of restorative medicine.

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