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*School professors Vladimir Makats (Ukraine).
Initial course of remote training of doctors
on a problem: "Functional biodiagnostics and
Correction of vegetative infringements at children".*

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76.29.47-pediatrics; 76.35.35-rehabilitation;
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... According to recommendations the CART of one of bases of medicine at the present stage should become electro diagnostics on points of acupuncture and reflexotherapy ... [the International meeting the CART on traditional medicine. Yerevan, 19-20.09.2003].

FUNCTIONAL BIORHYTHMS. ONCE AGAIN ABOUT THEIR DEPENDENCE ON LUNAR AND SOLAR ACTIVITY (Message-20).



Makats D.V.

Vinnitsa branch of the State enterprise of scientific research institute of medicine of transport of Ministry of Health of Ukraine (the cooperating center the WHO).

21036, Ukraine, Vinnitsa, Revolutionary 26/3, dr.makats@yandex.ru dr.makats@i.ua

The resume. The resume. Experimental materials specify in specific dependence of functional systems of the first complex (BL-SP) from a phase of the Moon, Solar activity, weather conditions and body position (standing - lying). The attention to their direct influence to formation of a daily biorhythm is paid. Its leading value in resonant functional answers is proved.

Keywords. Solar activity, system dependence, functional biorhythms.

The short preface. Problem article "Functional biorhythms. Solar activity and functional system dependence" is devoted the unknown person before Is functional-vegetative system of the person (ΦBC) and is a fragment of proofs of its biophysical reality. In article following designations of channels of the acupuncture (meridians) are used, traditional *органное* which name of this-day is presented by concept about interdependent functional systems: LU - lungs; LI-thick intestines; a ST-stomach; a SP-spleen (pancreas); HT-heart; SI-small intestines; BL-uric bladder; KI-kidneys; a PC pericardium; a TE-threefold heater (lymphatic system); a GB-gall bladder and a LR-liver.

Analogs the presented experimental materials aren't present.

Research objective - the information of the scientific and medical public on the unknown person before Is functional-vegetative system of the person. Open phenomena confirm a biophysical

reality of channels of acupuncture (meridians) of traditional Chzhen-tszju of therapy, its system character and the direct relation to a vegetative homeostasis. Biophysical audit of traditional positions specifies in a number of theoretical and practical errors that demands additional specialization of experts and corresponding correction of curriculums.

Materials and research methods. Supervision over functional (vegetative) health of the children's population of Ukraine were spent under the Program "System of two stages of rehabilitation of vegetative infringements at children living in a zone of radiating control of Ukraine" (Commissions of the Cabinet of Ukraine №1861/4 and №12010/87)" on the basis of an original method of vegetative biodiagnostics (on V.Makats) [1-2; 4-9; 15-16]. Its methodology is proved by unknown earlier biophysical phenomena, has original standard base and is characterized by comparability of the received results at repeated researches. Under the Program it is surveyed more than 18.000 children of a different floor and age.

Results of research and their discussion.

LUNAR BIORHYTHMS AS THE VEGETATIVE PROGRAM OF THE LIVE.

Laws of development Live are caused by biorhythm that is the form of the organization of dependence between functional systems of an organism. In their basis the principle of the vibrating resonance which specificity causes power and information processes of a metabolism lies. Synchronization of internal vibration of an organism with space physical rhythms causes its ordered activity at which the information-power exchange becomes proof and effective. Thus the periods of the maximum activity alternate with the periods of relative passivity when it is observed restoration and accumulation of the spent energy. This universal property of wildlife is directed on support of the dynamical adaptation of biological systems to variable conditions of environment.

According to base positions биоритмологии, all biological processes depend on cyclic influence of the Moon and the Sun, gravitational, geomagnetic, field of torsion and other power information fields. Thus it is necessary to pay attention to the following: the specified space physical factors are ambiguous on force, but are uniform on an orientation of influence on the person and surrounding the environment.

Today on the basis of the experimental materials received by us some questions биоритмологии demand corresponding correction. So, as the main synchronizer of endocellular biological rhythms change of day and night (that has received accurate biophysical acknowledgement) really acts. But specific features of space physical dependence which within days causes dynamics of a base functional biorhythm are thus found out.

Give once again them we will consider and we will begin with the most important.

1) Dynamics of functional activity of systems of first complex SP-BL depends on space physical factors, in particular from the Lunar phase. Their synchronous activity in a phase of the New Moon is oppressed and is below a zone of functional norm, and under the Full Moon is raised and occupies a specific zone of norm. The phenomenon unknown earlier is interesting: caused by even and odd hours synchronously-asynchronous dynamics of functional systems SP-BL (feature Moon-dependent biological rhythms)! It is Thus indicative that the first and second quarter of Lunar activity specify in its transitive conditions.

Are established synchronous inside complex interdependence of functional systems FK-1 (SP-BL) and asynchronous dependence of other systems on a condition of their activity. Thus it is neces-

sary to pay attention once again on:

1) the periods of excitation and the oppressions of the first functional complex depending on a phase of Lunar activity and time of days and

2) not understood while nature of a phenomenon of daily alternation of excitation (oppression) SP-BL on even (odd) hours that is especially shown in a phase of the Full Moon (fig. 1,2 a-d).

Daily profiles of functional system BL and Moon phase (fig. 1 a-d)

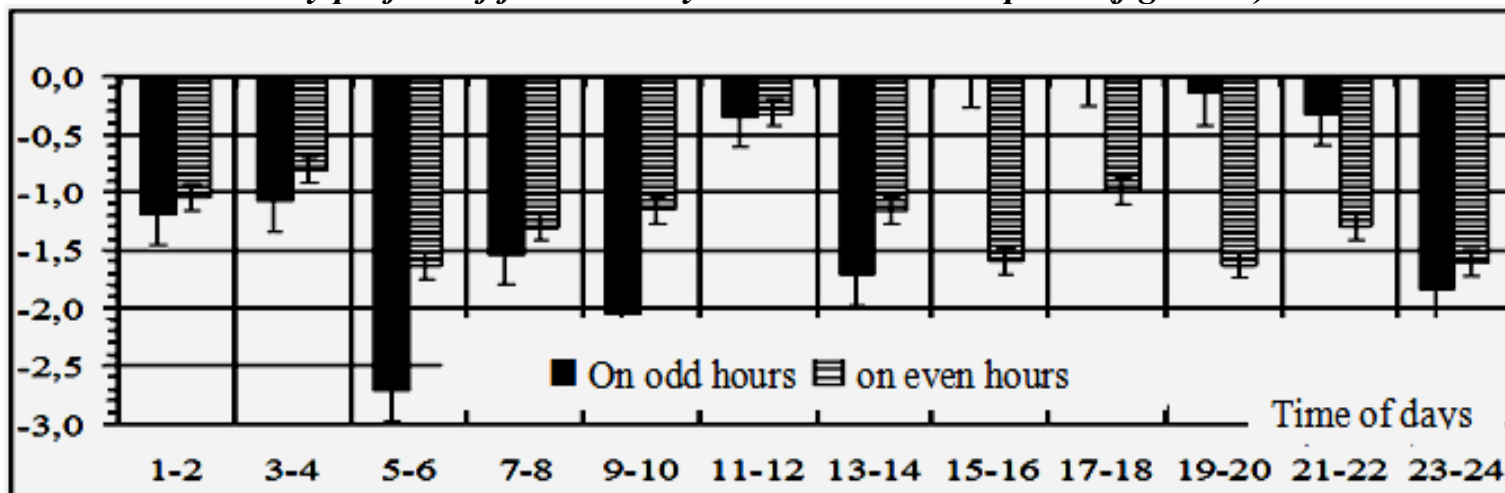


Fig.1a Daily profile BL under the New Moon

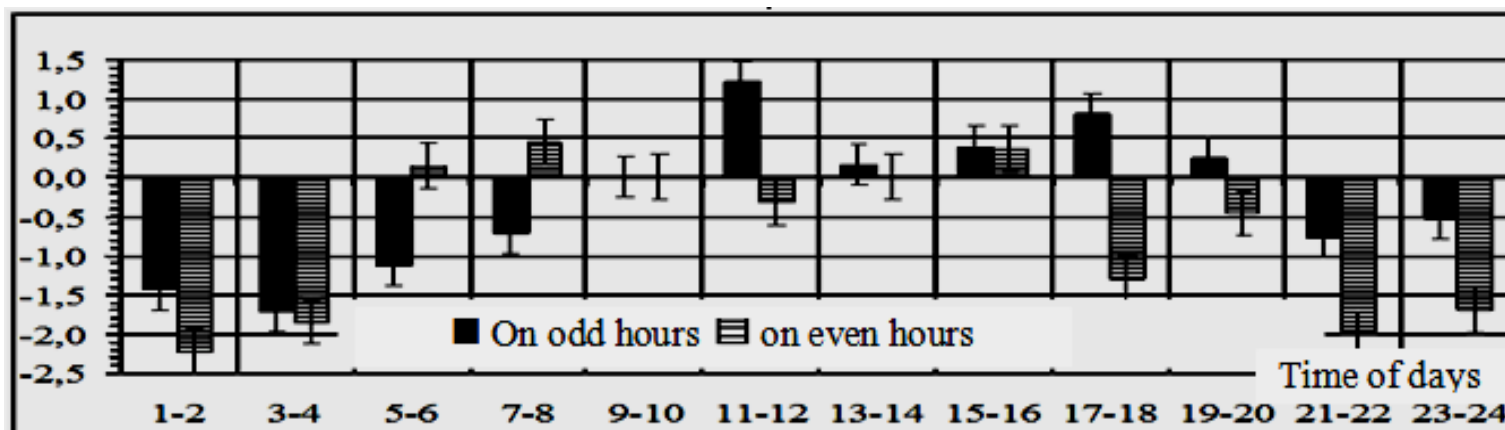


Fig.1b Daily profile BL in the first quarter of the Moon

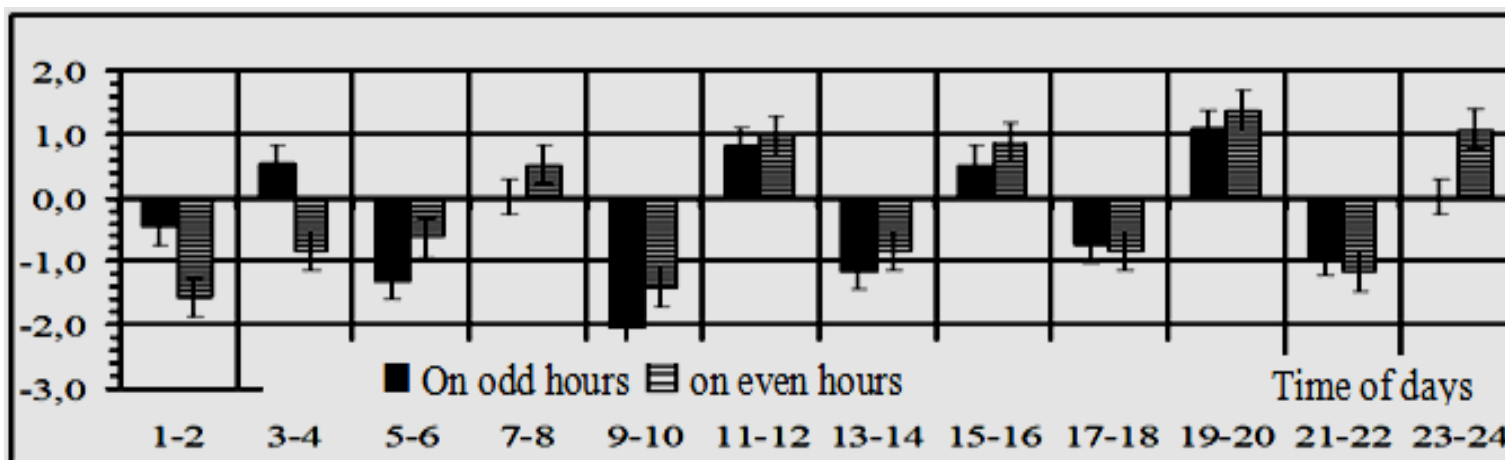
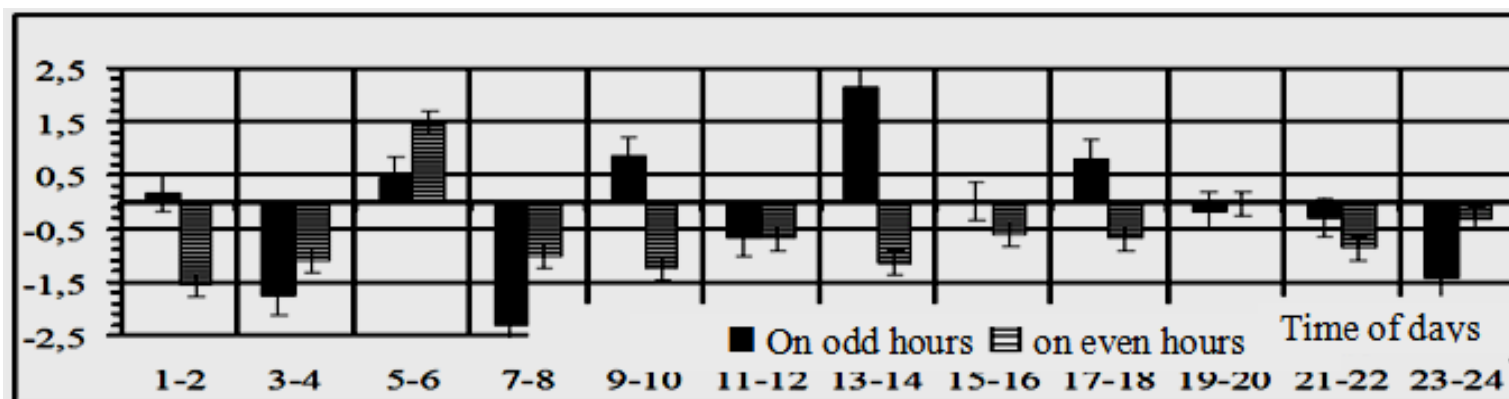
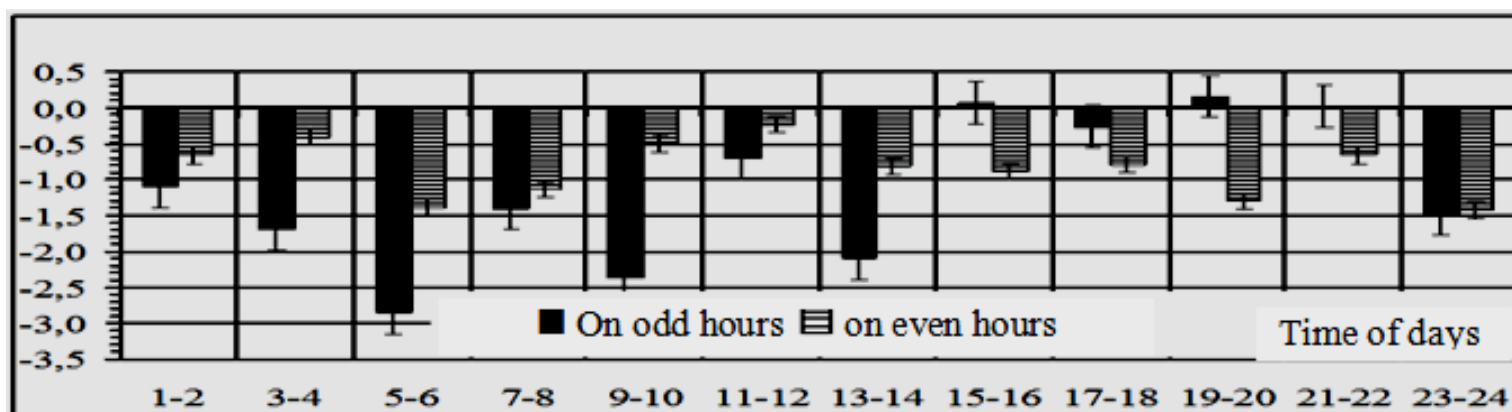
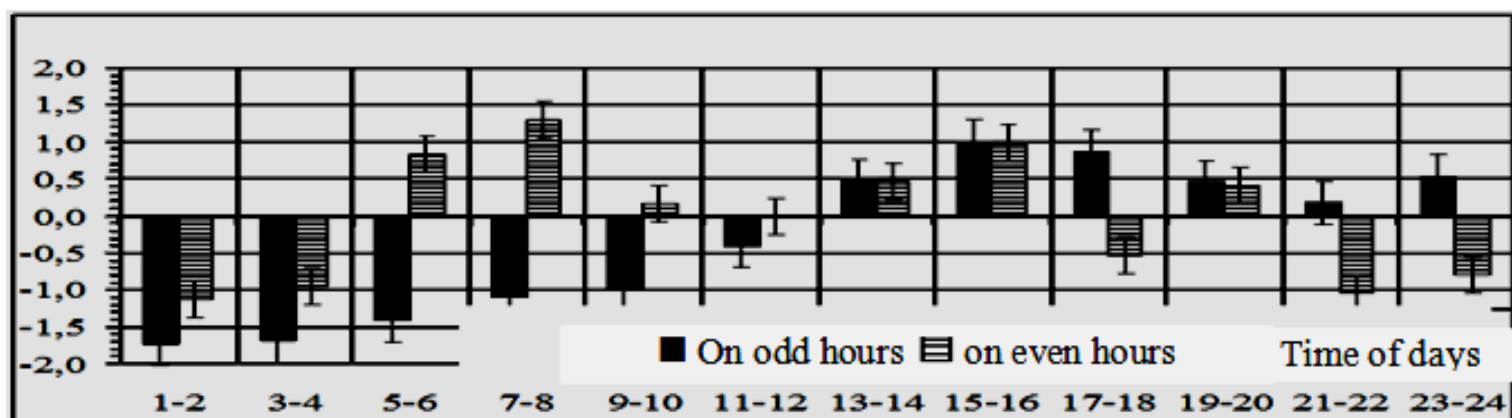
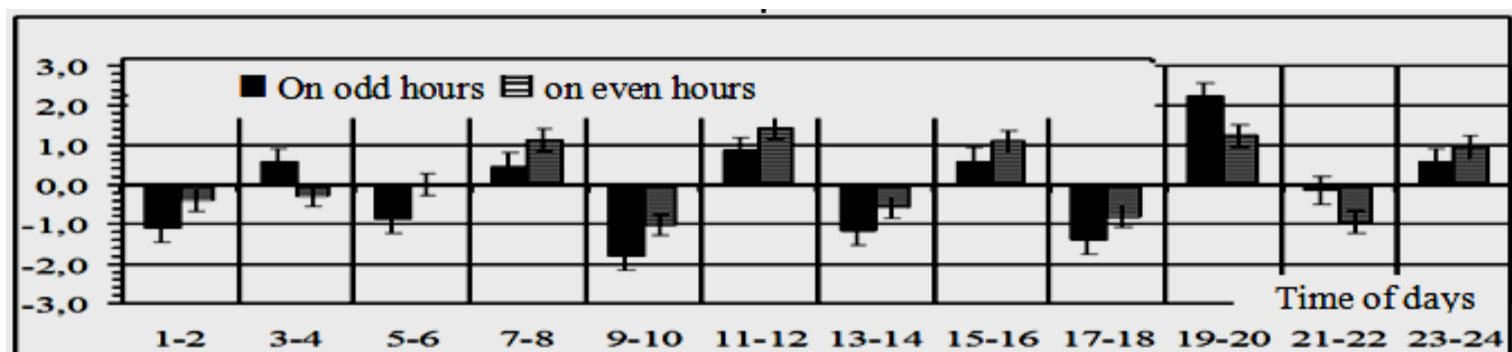


Fig.1c Daily profile BL under the Full Moon

Fig.1d Daily profile **BL** in the second quarter of the Moon

Daily profiles of functional system SP and Moon phase (fig. 2 a-d)

Fig.2a Daily profile **SP** under the New MoonFig.2b Daily profile **SP** in the first quarter of the MoonFig.2c Daily profile **SP** under the Full Moon

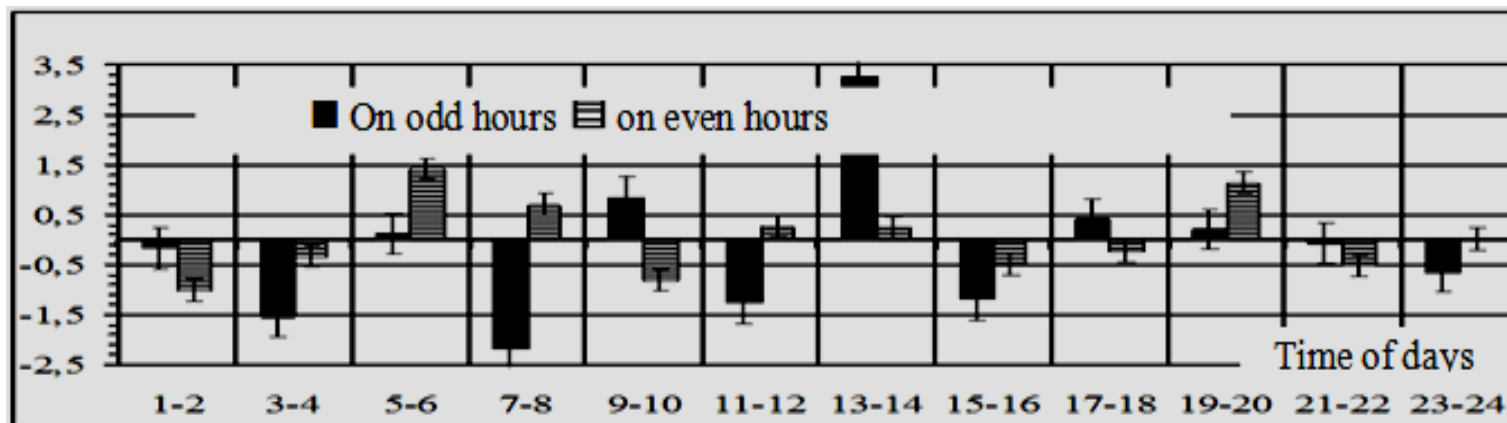


Fig. 2d Daily profile SP in the second quarter of the Moon

If we will remember that change of activity of functional systems FK-1 causes opposite reactions in all other systems, it is easy to imagine value of Lunar dependence in the further development of biophysical transformations (fig. 3 a, b) ...

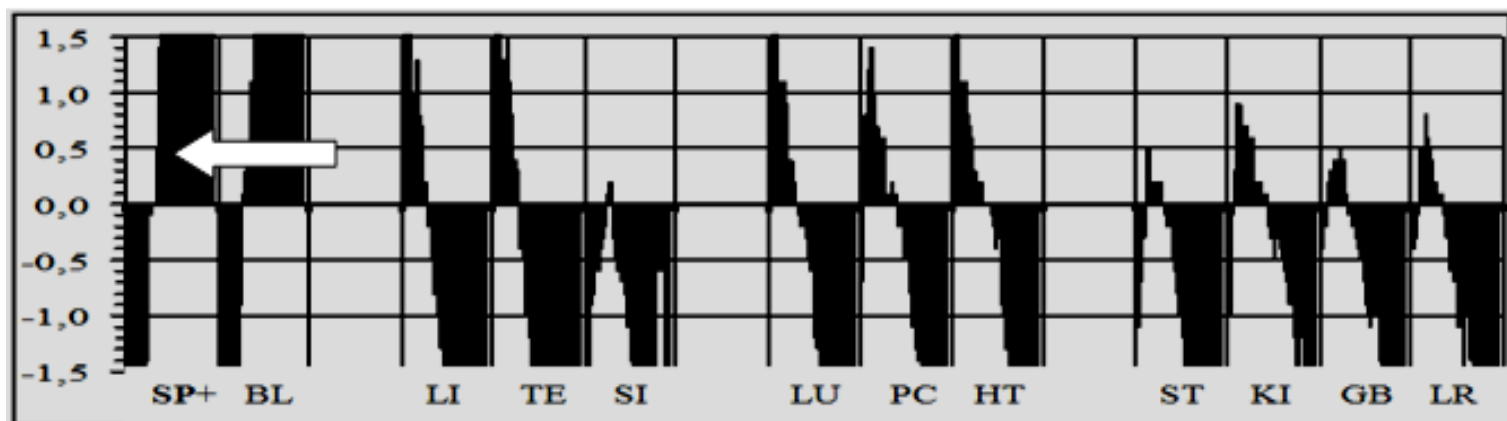


Fig. 3a Dependence of functional systems on activity of the first vegetative complex (SP)

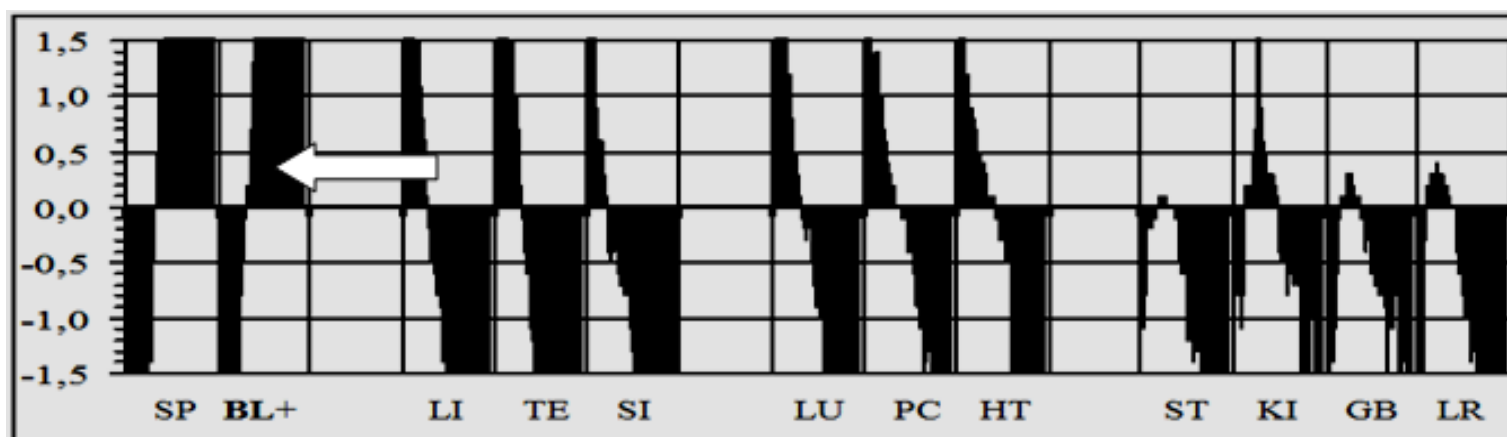


Fig. 3b Dependence of functional systems on activity of the first vegetative complex (BL)

Short summarizing the above-stated, we will note. The detailed analysis of functional profiles of other systems only has underlined biophysical dependence of the first complex (SP-BL) from phases of Lunar activity. And though the mechanism of dependence to us isn't clear, it is necessary

to recognize that four waves of its daily activity form a biophysical basis of terrestrial biological rhythms.

OUR MYSTERIOUS AND SURPRISING COMPANION - THE SUN!

Dependence of functional systems on Solar activity (fig. 4) was studied according to stations of the Western hemisphere on the basis of flashes on the Sun (Sf), by Volf's numbers (Sn) and Pi - a planetary index (26-39 - a small magnetic storm (MS); 40-69 - moderated in the MS; 70-99 - big MS; >100 - very big MS). In attention have accepted the previous analysis of daily dynamics of functional activity of systems BL-SP for which in 8^{00} - 10^{00} , 15^{00} - 16^{00} and 19^{00} - 20^{00} the excitation condition, and in 11^{00} - 13^{00} , 17^{00} - 18^{00} is characteristic, 20^{00} and $>$ - an oppression condition. It is noticed that the increase in a planetary index (Pi) is accompanied by oppression of functional systems BL-SP and development of dependent synchronously-asynchronous reactions. Thus solar flashes (Sf), on the contrary, cause excitation of the specified systems.

Dependence of functional systems and complexes on activity of the Sun (fig. 4)

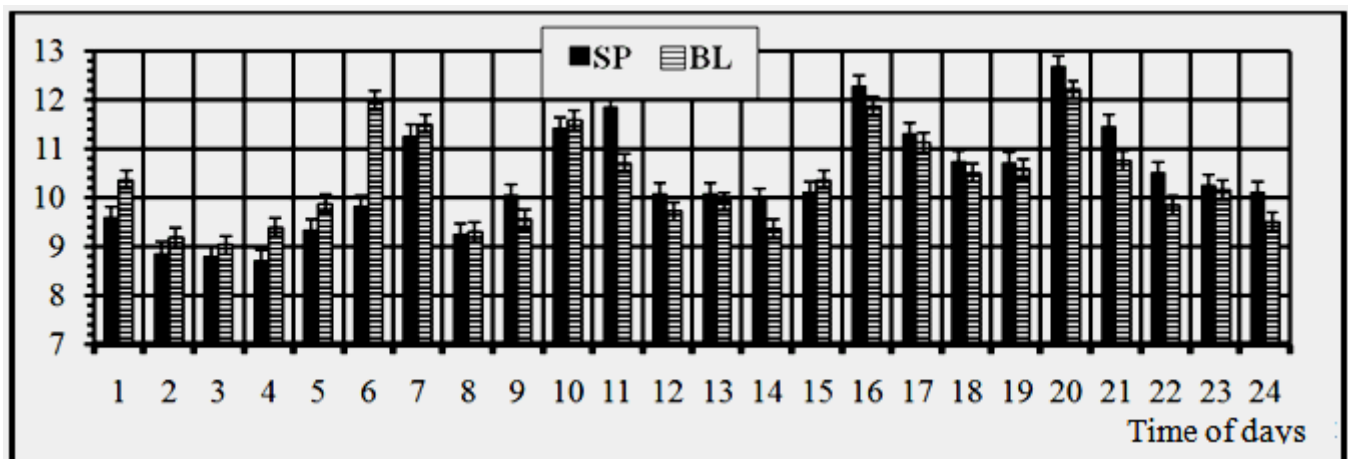


Fig.4a Daily dynamics of functional systems SP-BL

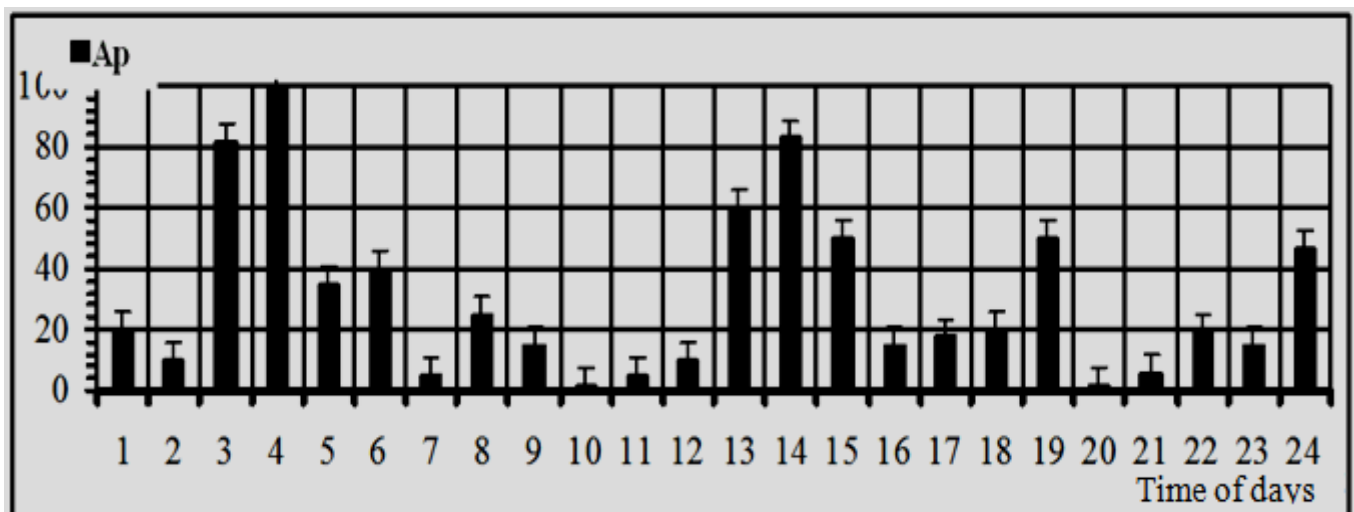


Fig.4b Daily dynamics of a planetary index of Pi (1-2.04.2001)

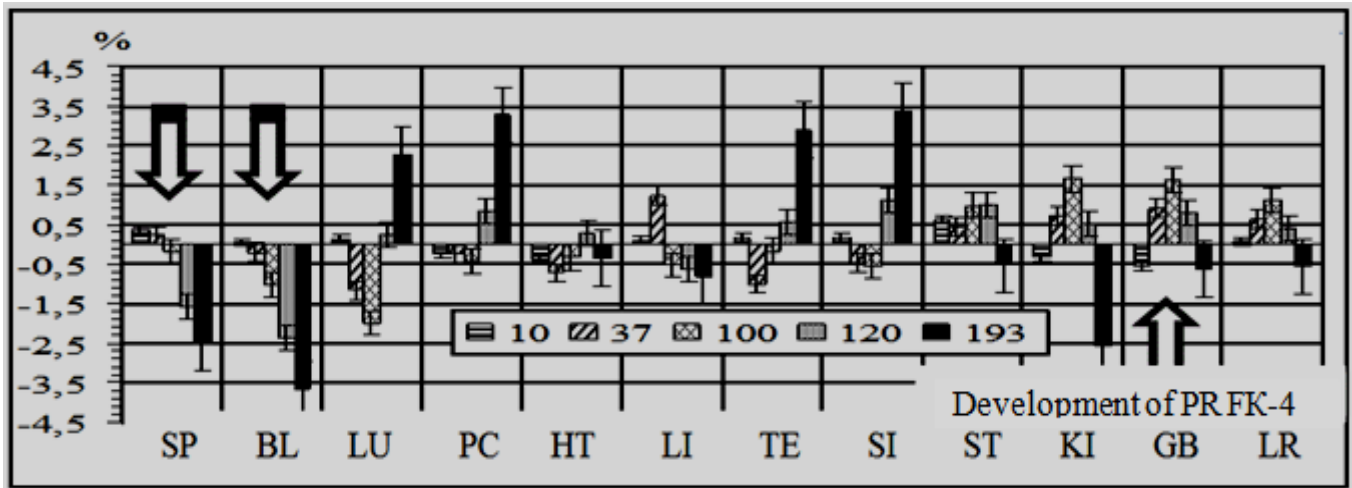


Fig.4c Dependence of functional systems on a planetary index

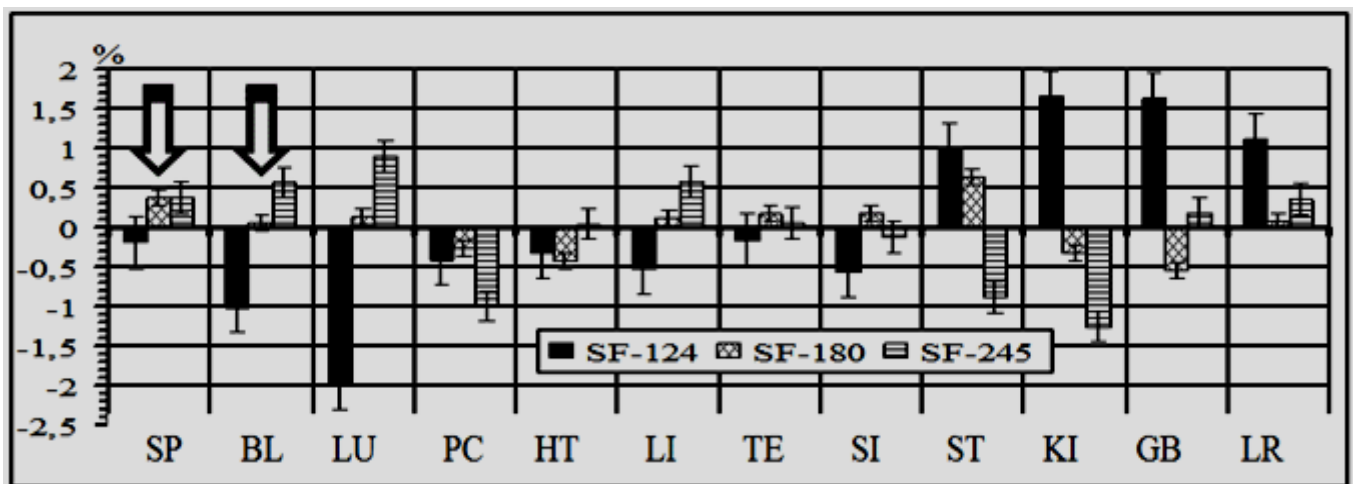


Fig.4d Dependence of functional systems from Sf (flashes on the Sun)

There is a question, and whether the found out solar dependence is shown under different weather conditions (solar and cloudy days)? The analysis of activity of functional systems BL-SP in solar and cloudy weather testifies to their dependence on intensity UV of radiation (growth of solar activity causes oppression of functional activity of systems of the first functional complex).

Dependence of functional systems SP-BL on weather conditions (fig. 5a-d).

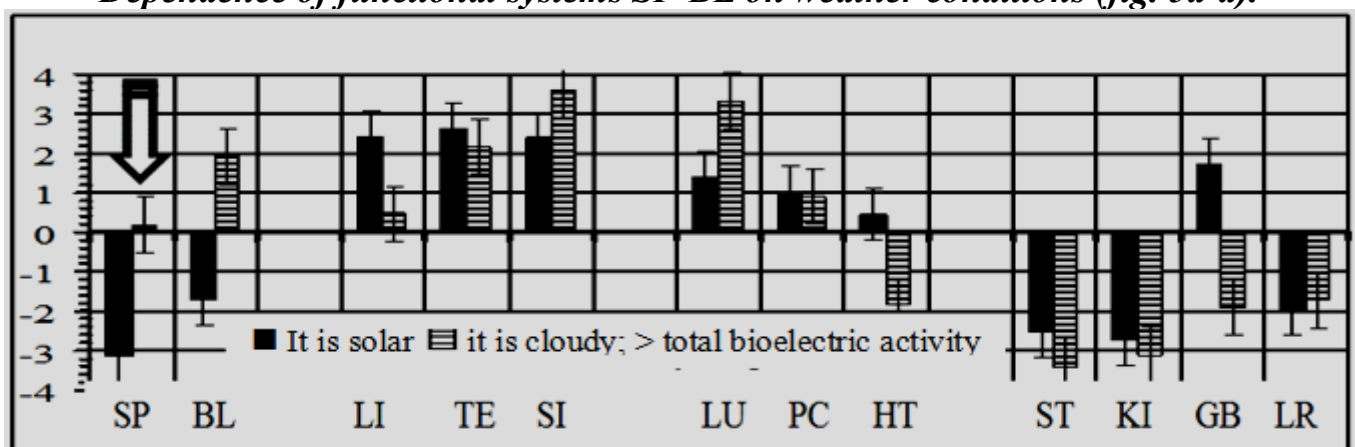


Fig.5a At considerable initial oppression SP-BL

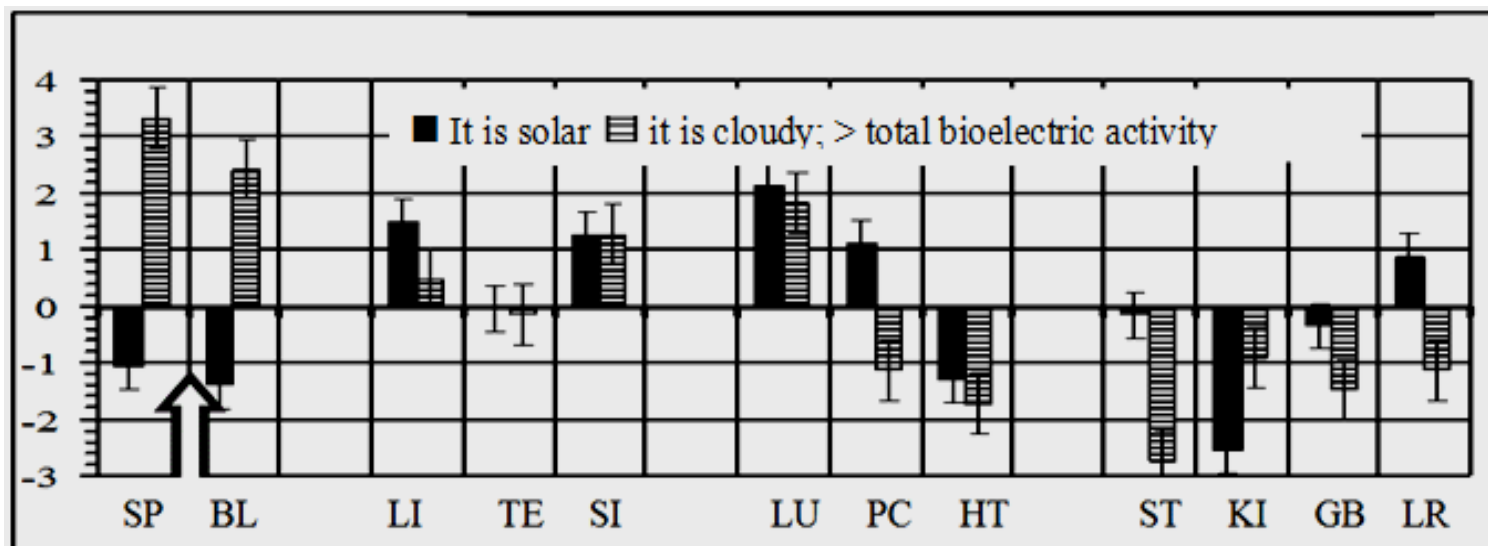


Fig.5b. At expressed initial oppression SP-BL

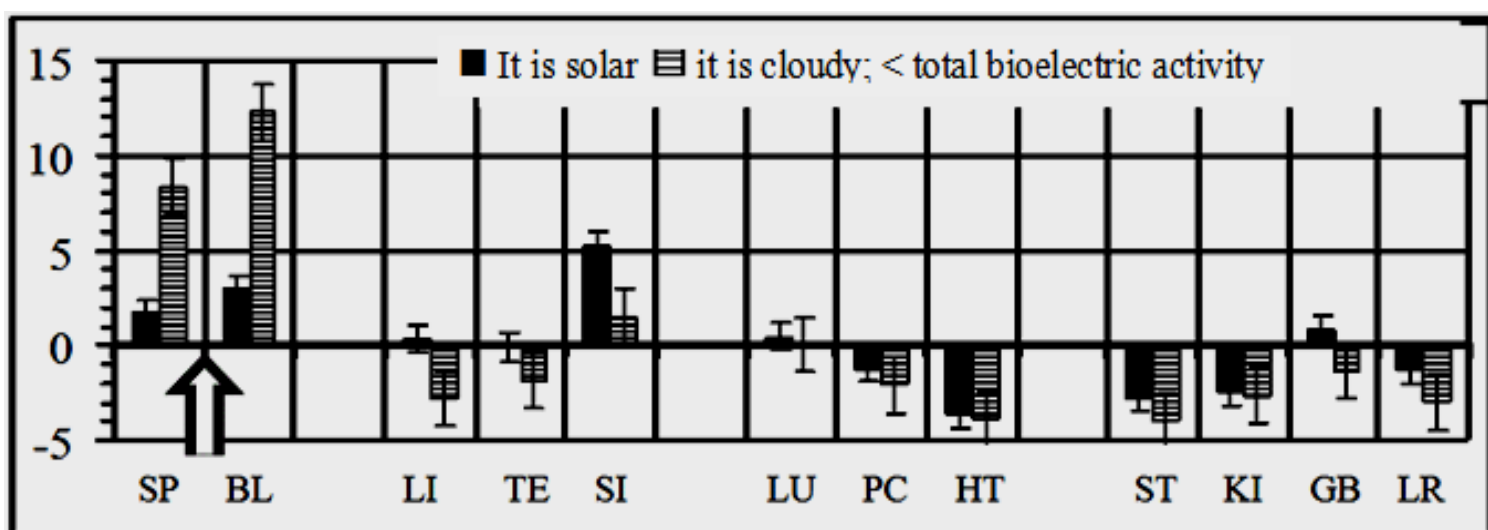


Fig.5c. At expressed initial excitation SP-BL

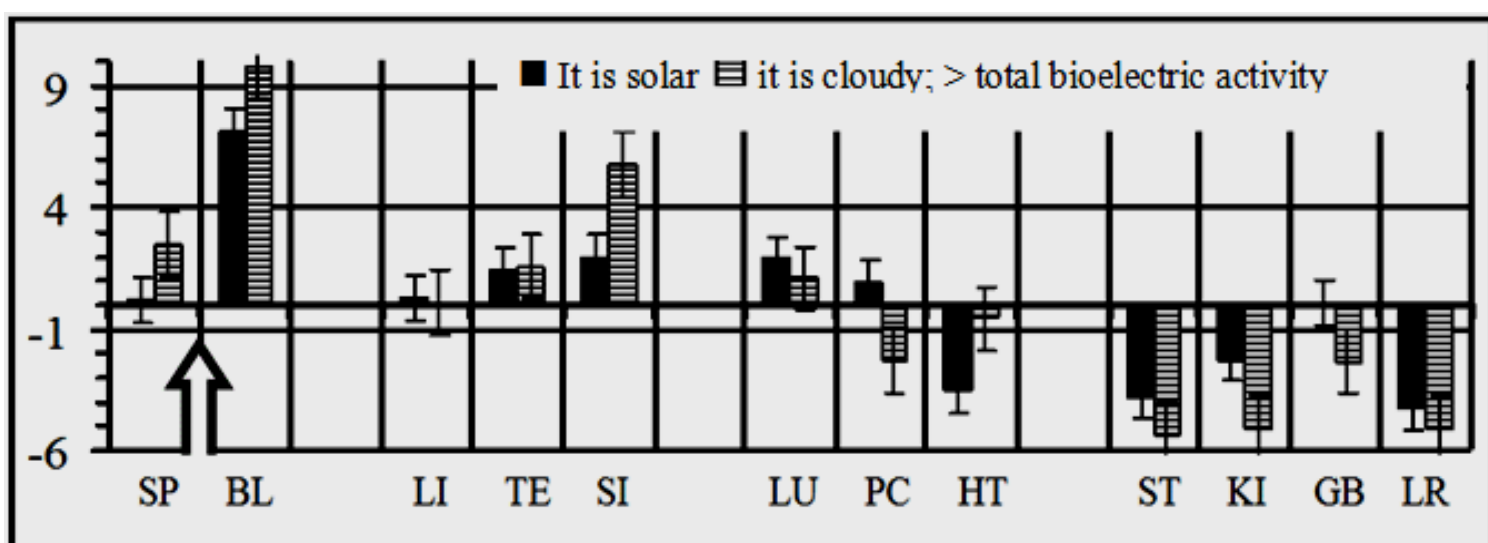


Fig.5d. At considerable initial excitation SP-BL

There is a question on daily dynamics of complexes?

Daily activity of separate functional complexes (fig. 6 a-d).

The analysis of histograms specifies in certain dynamics of daily activity from-efficient functional complexes. Thus again attracts attention more accurate daily biorhythm of average values of functional activity FK-1 (SP-BL).

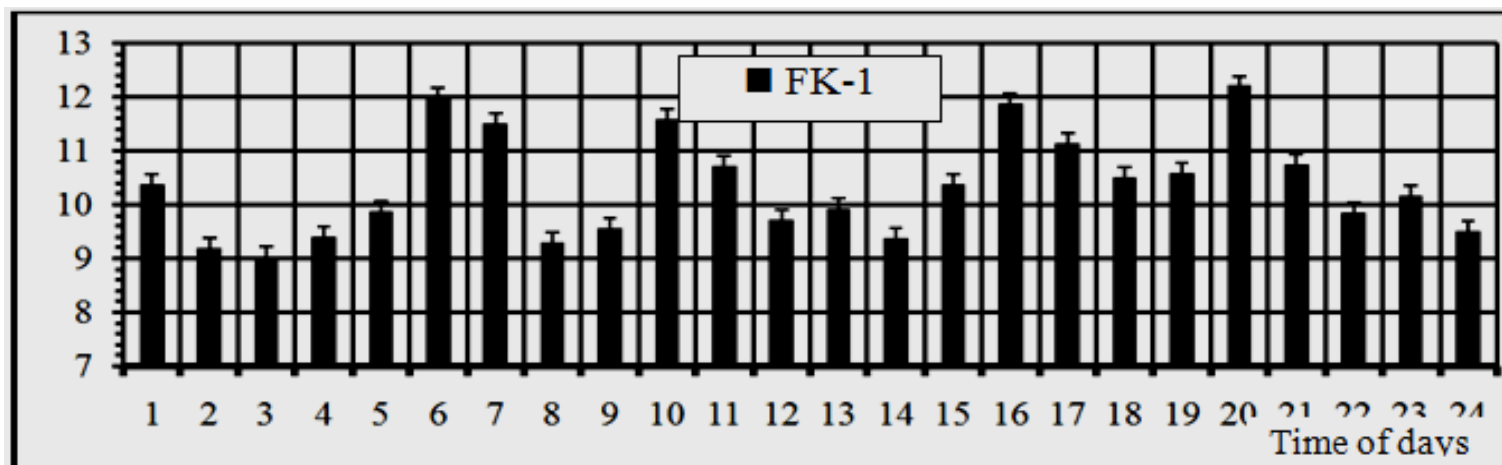


Fig. 6a Daily activity of the first functional complex (FK-1)

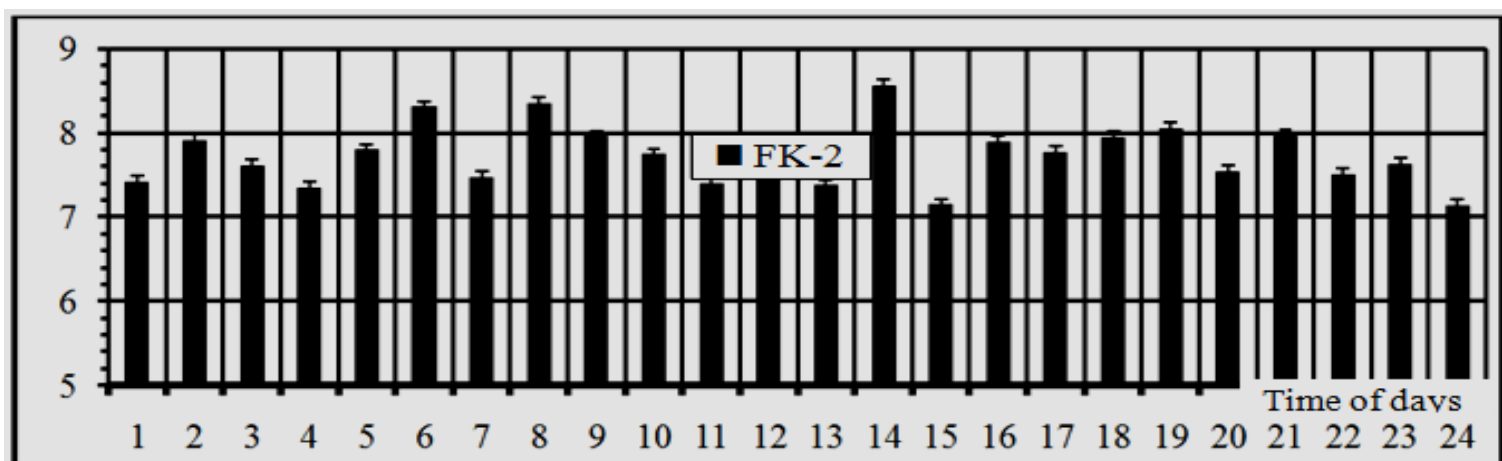


Fig. 6a Daily activity of the first functional complex (FK-1)

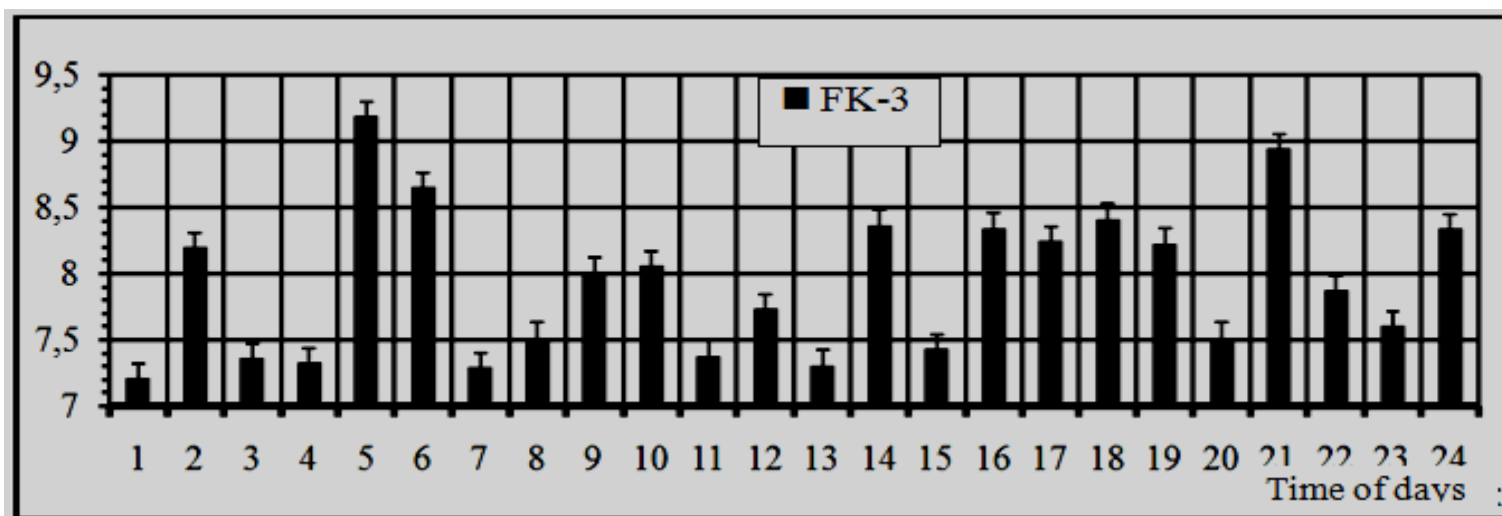


Fig. 6c Daily activity of the third functional complex (FK -3)

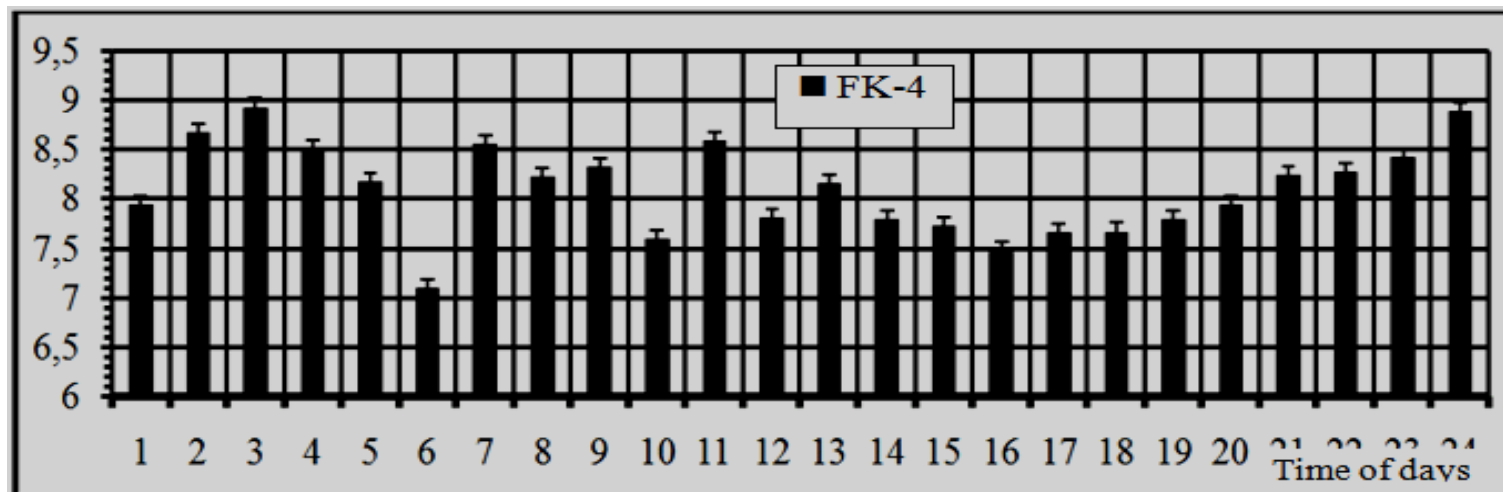


Fig. 6d Daily activity of the fourth functional complex (FK -4)

The analysis of a problem of biological rhythms and system dependence can't be considered in a separation from a natural phenomenon of a pose: positions of summer lying and standing.

POSE PHENOMENON - SYSTEM DEPENDENCE ON BODY POSITION

In the course of evolution the vertical statics has caused specificity of development of the person and functional dependence of internal systems on gravitation. Doesn't raise the doubts that last influence a vegetative homeostasis, providing in a standing position or "lying" specific hemodynamics and power. It is necessary to notice that the majority of functional researches, as a rule, are spent in lying position of a body. Thus the standard base of many diagnostic indicators isn't stipulated by their dependence on body position that causes a number of theoretical and practical problems. It is not excluded, what exactly this circumstance underlies modern rehabilitation contradictions.

Inspection of young men (18-20 years, 148 supervision) was spent by us in second half of day, to and in 5-10-30 minutes after change of position of a body "standing" on body position "lying" (tab. 1). In 73, 2 % of cases position "lying" causes specific dynamics of a vegetative homeostasis - its parasympathetic activity (PA). As a whole it doesn't contradict functional position of a body as thus functional systems LU (lungs), HT (heart), LI (thick intestines) and SI (small intestines) are oppressed, and KI (kidneys) are raised. Here we carry also transition of some functional conditions in a zone of vegetative balance (9, 9 %). But changes towards nice activity (16, 9 %) demand the subsequent attentive studying.

Table 1

Dynamics of a vegetative homeostasis at transition from body position "standing" in body position "lying" (in %).

| № | Dynamics of vegetative factor (k) in comparison with an initial condition of a vegetative homeostasis | Change in % | |
|-----------------------|---|-------------|--------|
| | | On groups | of all |
| 1 | Strengthening of parasympathetic activity (PA) | 36,6 | 73,2 |
| 2 | Oppression sympathetic (CA) activity | 9,9 | |
| 3 | Condition of the PA without change | 26,8 | |
| 4 | PA transition in vegetative balance (VB) | 9,9 | 9,9 |
| 5 | PA transition in sympathetic activity (SA) | 16,9 | 16,9 |
| In total supervision: | | 100 | 100 |

Supervision testify that transition from a standing position in body position "lying" is accompanied by essential reduction of total bioelectric activity (BA) functional systems of an organism (80,3 % of supervision). Thus it is not established yet: what, as well as where disappears? Though we also note specifically directed dynamics in activity of some functional systems: excitation SP-BL and KI (P <0,001;-0, 05), oppression LI-SI, LU-HT (P <0,001) and differently directed statistically not authentic fluctuations in activity of systems of fourth functional complex ST-GB-LR (tab. 2).

Table 2

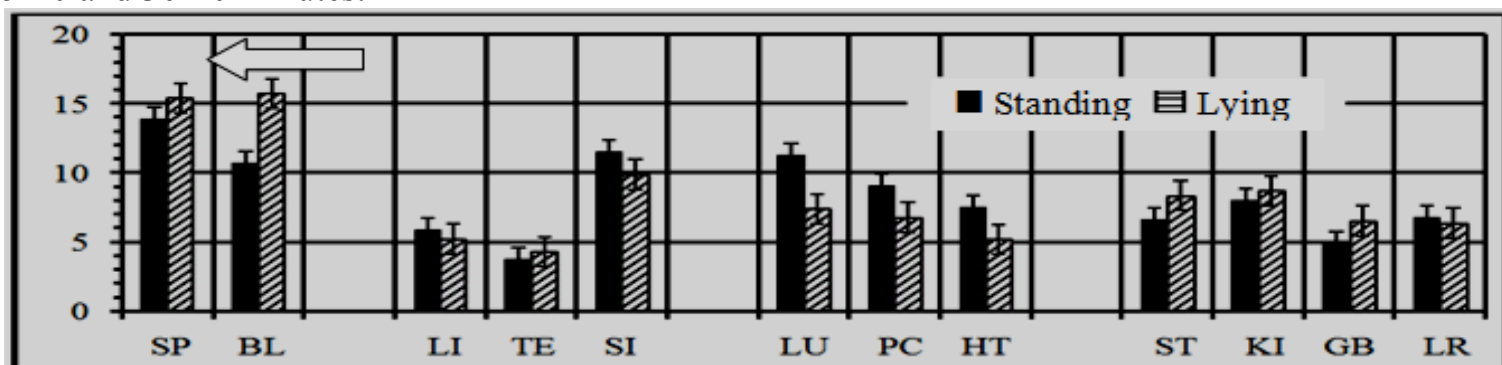
Dynamics of bioelectric activity at transition from body position "standing" in position "lying" (%)

| SP | control | result | BL | control | result | Total bioelectric activity | | | | | |
|-----|---------|--------|-----|---------|--------|----------------------------|---------|--------|-------------------|---------|--------|
| 100 | 25,4 | 74,6 | 100 | 19,7 | 80,3 | reduction 80,3 | | | | | |
| LI | control | result | TE | control | result | SI | control | result | augmentation 13,7 | | |
| 100 | 74,6 | 25,4 | 100 | 38,0 | 60,6 | 100 | 70,4 | 28,2 | | | |
| LU | control | result | PC | control | result | HT | control | result | | | |
| 100 | 74,6 | 25,4 | 100 | 56,3 | 42,3 | 100 | 74,6 | 25,4 | | | |
| ST | control | result | KI | control | result | GB | control | result | LR | control | result |
| 100 | 45,1 | 54,9 | 100 | 28,2 | 71,8 | 100 | 43,7 | 56,3 | 100 | 56,3 | 42,3 |

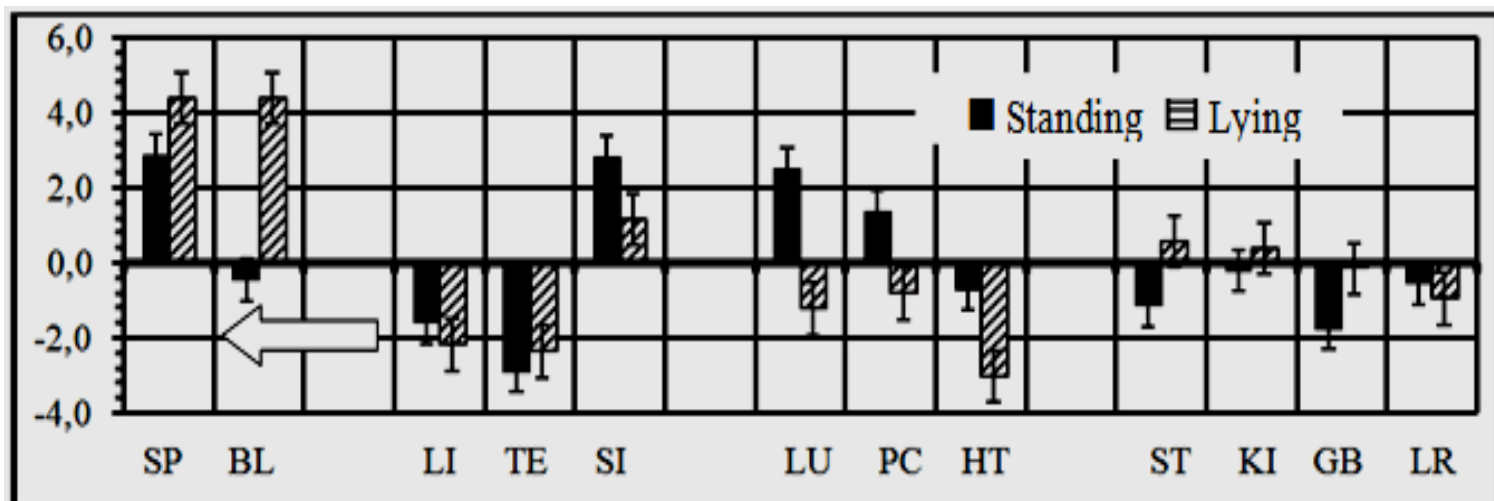
Thus anyway it is necessary to pay attention to expediency of carrying out of vegetative biodiagnosics in a standing position. It is peculiar to the majority of real situations in out-patient and rehabilitation practice ...

Irrespective of an initial condition sympathetic (Jan-syndrome), or parasympathetic (the YIN a syndrome) activity, transition in position "Lying" is authentically accompanied fast (within 5 minutes) by excitation SP-BL (100 %) and oppression of activity of other functional systems (fig. 7 a, b), behind an exception not specific reaction of channels ST-KI-GB-LR. Thus we will notice that functional systems (a ST-stomach, KI-kidneys, a GB-gall bladder and a LR-liver) concern the fourth functional complex which paradoxical reactions serve as a counterbalance of dependence SP-BL from space factors.

At return transition from body position "lying" in a standing position activity of functional systems SP-BL, on the contrary, it is oppressed that testifies to reliability found out "a pose phenomenon" (fig. 7c). Thus it doesn't depend on an initial vegetative condition. It is necessary to note also more active reaction from functional system BL and the general orientation of changes throughout 5-10 and 30-40 minutes.

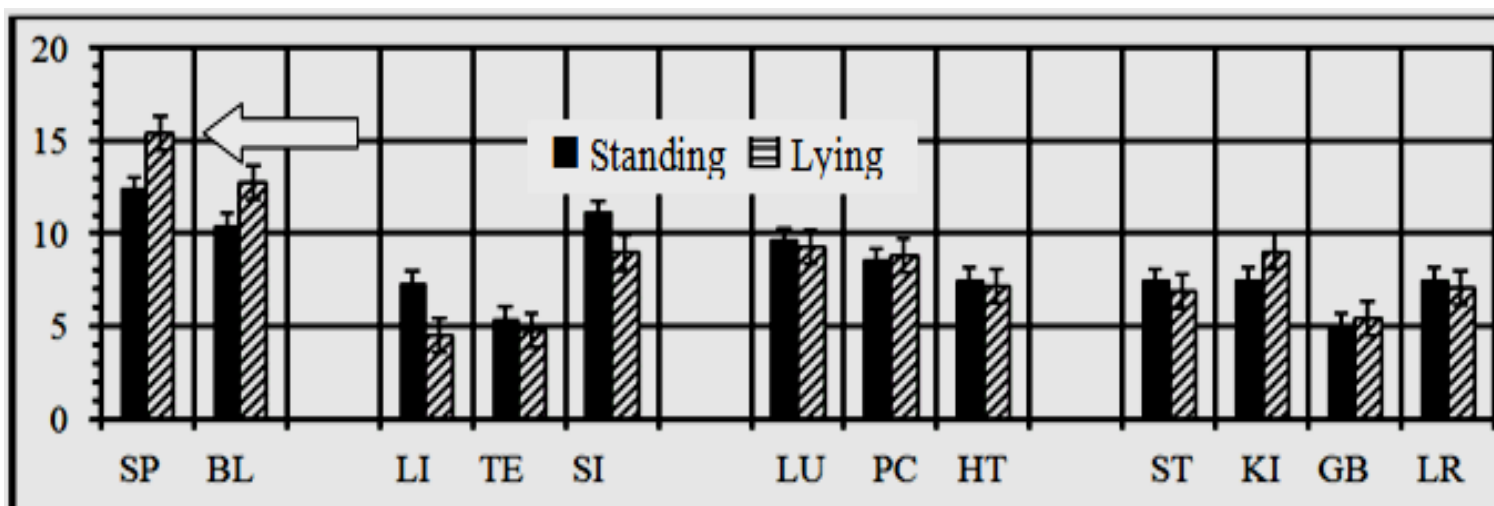


At body positions "lying" FS SP-BL are raised.

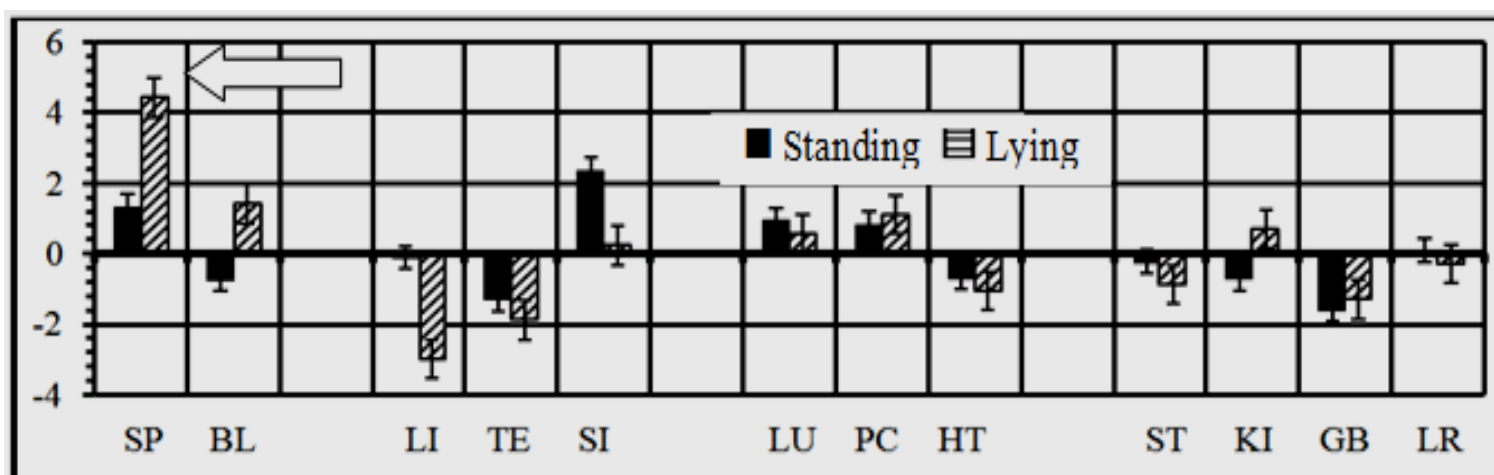


Indicators of the same group in relation to a zone of functional norm.

Fig. 7a Result of transition of a body in a pose "lying". Increase in activity FS SP-BL after an initial condition of sympathetic activity (ЯH a syndrome).

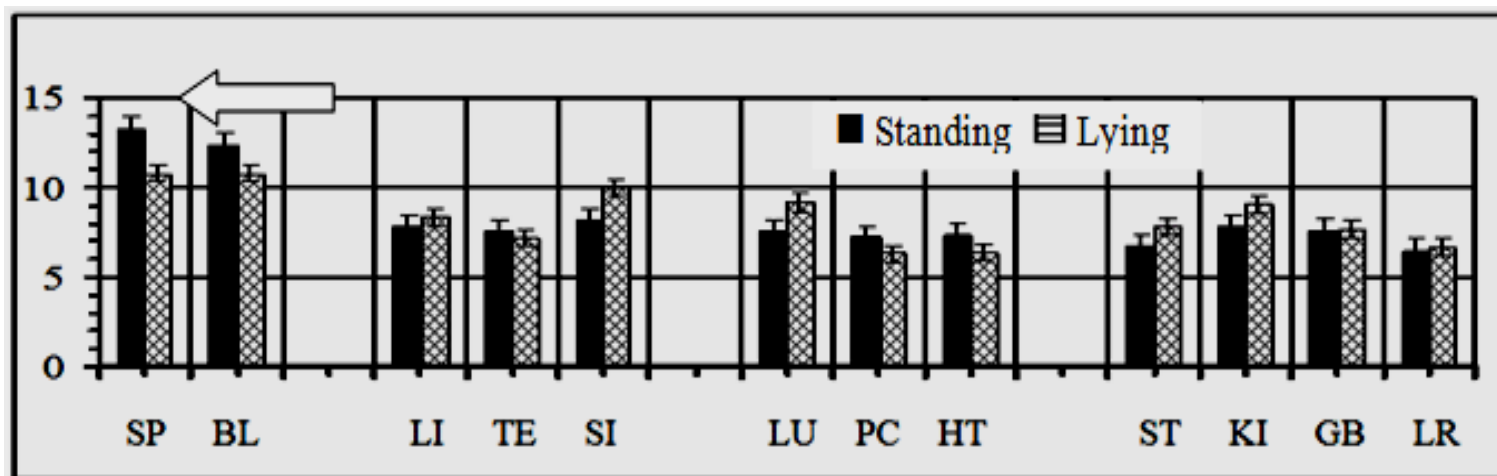


At body positions "lying" FS SP-BL are raised.

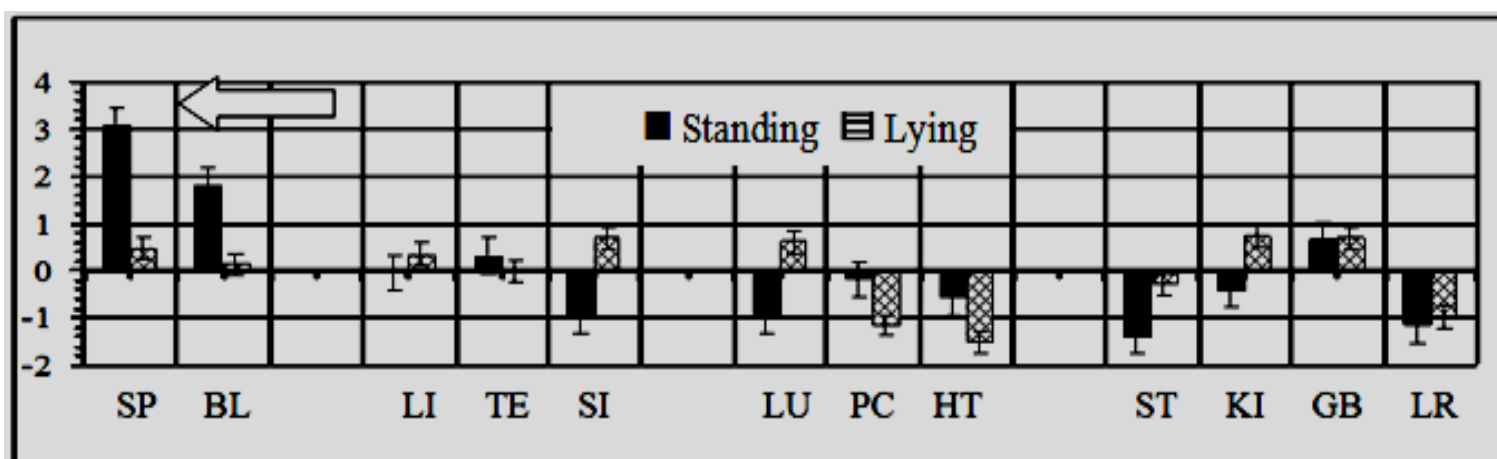


Indicators of the same group in relation to a zone of functional norm.

Fig. 7b Transition in position "lying": dynamics ΦC SP-BL at initial parasympathetic activity (the YIN a syndrome)



At body positions "standing" FS SP-BL are oppressed.



Indicators of the same group in relation to a zone of functional norm.

Fig. 7c Transition in a standing position is accompanied by oppression of activity FS SP-BL

Thus, transition in body position "lying" causes excitation of functional activity SP-BL ($P < 0,001$) that is accompanied by oppression of functional systems LI-SI, LR and excitation KI (conditions for development of parasympathetic calm are thus created). Transition in position τ at "standing", on the contrary, it is accompanied by oppression FS SP-BL and excitation of the third FK (LU-PC-HT), SI, ST and KI (conditions for activation of sympathetic activity are thus created). The obtained data, by the way, testifies to expediency of carrying out of vegetative biodiagnostics in a standing position. Thus again we pay attention to the leading part of functional systems FK-1 SP-BL!

The analysis of the presented material allows making following conclusions.

Conclusions.

1. Dynamics of daily activity of separate functional complexes on the general background depends on a phase of Lunar activity and Solar UV-radiation.
2. Activity of functional systems BL-SP (FK-1) depends on a phase of the Moon and Solar activity that specifies in their value in mechanisms external a vegetative homeostasis.
3. The zone of daily activity of the third complex (LU-PC-HT) speaks about its value in formation the YIN of a syndrome (a condition of parasympathetic oppression).

4. The zone of daily activity of the fourth complex (ST-KI-GB-LR) speaks about its value in formation JAN of a syndrome (a condition of sympathetic activity).

5. Parasympathetic influence of the Moon is provided in most cases with synchronously-asynchronous reactions of functional complex SP-TE-SI.

6. Sympathetic influence of the Moon is provided in most cases with synchronously-asynchronous reactions of functional complex BL-GB-ST.

7. UV the Sun component oppresses activity of functional systems of first complex SP-BL.

8. It is rather probable that the phenomenon of synchronously-asynchronous reactions depends on external (space) factors ...

8. Daily dynamics of vegetative factors specifies in three characteristic periods: prevalence ЯН of activity (1^{00} - 9^{00}), hourly fluctuation the YIN-JAN of a condition (10^{00} - 15 - 16^{00}) and the subsequent prevalence the YIN of activity (to 24^{00}).

9. Identification of system dependence testifies to necessity of the further studying of the revealed biophysical phenomena.

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