

## **About the methods of nonconventional ischemic cardiac disease diagnostics**

**Ischemic cardiac disease** is a condition caused by disordered balance between the coronary blood-flow and the metabolic needs of cardiac muscle. Thus the imbalance between cardiac muscle's (myocardium) oxygen needs and its delivery leads to the cardiac muscle's oxygen starvation (myocardial hypoxia) and to accumulation of toxic metabolism products in the myocardium causing the pain. The main reasons of ischemic cardiac disease are atherosclerosis and spasm of coronary arteries [1,2].

Disordered patency of coronary arteries also causes ischemia of myocardium – an insufficient blood and oxygen delivery to the cardiac muscle. The clinical presentations of ischemic cardiac disease are listed below.

**Stenocardia** - is characterized by compressing pains behind the breast bone with the irradiation into the area of the left shoulder and of the left shoulder blade; the attacks arise when the working load of heart is increased and its oxygen needs are increasing accordingly. In case of stenocardia the pain always has following attributes: it is characterized by attack, i.e. its time of occurrence, of termination, of fading is well defined; it arises under certain conditions, circumstances (more often when having nervous stress and physical activity); it begins to abate or absolutely stops when taking nitroglycerine.

**Myocardial infarction** - arises owing to sharp obstruction of coronary artery lumen by a thrombus or to its narrowing by a swollen plaque, with the subsequent necrotization of a part of cardiac muscle. The occurrence of an intensive and prolonged (more than 30 minutes, quite often lasting many hours) retrosternal pain attack is considered to be the beginning of the myocardial infarction which can not be stopped by taking nitroglycerine. Less often in the attack picture are prevailing asthma or a pain focused in epigastric area; this way of disease developing is considered to be atypical. In the sharp period the arterial hypertension (frequently a significant one) can be observed, which disappears when the pain is calming down and doesn't require the taking of hypotensive preparations, pulse increasing (not always), body temperature rising (during 2-3 days).

**Postinfarction cardiosclerosis:** it is affection of cardiac muscle and of cardiac valves, arising more often owing to myocardial infarction the patient has had and described by development of healing tissue as sites of different size and extension replacing the myocardium.

**Arrhythmias:** these are disturbances of frequency, rhythm and sequence of heart beats arising owing to disordered myocardial conduction and excitability of myocardium when having expressed structural changes of the cardiac muscle, and

in case of disordered metabolism. The expressiveness of arrhythmia can be not corresponding to severity of the basic disease of heart. The arrhythmias can be diagnosed mainly with electrocardiogram.

**Impaired cardial function** - arises basically owing to formation of the healing tissue replacing the cardiac muscle after having infarction; it is a direct continuation of a pathological process making a chain: stenocardia - infarction – postinfarction cardiosclerosis (a scar); it is characterized by an insolvent pump function of heart.

### **Investigation methods**

Besides the tool investigation methods applied in clinics, such as electrocardiogram (electrocardiography), teleelectrocardiography, tests with physical loading (bicycle ergometry, treadmill-test, master-test), daily monitoring of the electrocardiogram after Holter, echocardiography, radionuclide angiocardiology, scintigraphy of myocardium, coronary angiography, heart cavity catheterization at the moment in the pre-clinical stage the methods of nonconventional diagnostics are applied widely. The most known of them are:

**Voll-method:** it is the method of electropuncture diagnostics and the therapy, allowing to objectificate the results received when examined the biologically active points and, accordingly, to make opinion about the condition of organ corresponding to them, i.e. to make diagnostics [3]. When using the Voll-method of diagnostics, the condition of acupuncture points representing all meridians located both on hands and on feet are analyzed. The meridians and acupuncture points located on them are connected with the certain organs and systems of organs. So, in particular, the meridian of heart and biologically active points connected with this organ begins on hands and settles down on the medial surface of the little finger. The most suitable equipment for realization of the Voll-method of electropuncture diagnostics is, in our opinion, the hardware-software complex "Imedis-Voll" which allows to read biological parameters off the acupuncture points and to fix the slightest disorders of organism. Thus, the Voll-method allows to find the original cause of disease, to diagnose the illness even at its early stage when there are no irreversible changes in the organism yet. On the basis of the received information the doctor selects, when the examination comes to its finish, the necessary medical products, individually to each patient, defines their compatibility and the necessary doze. Such selection of medicines, in their totality, allows to treat not the separate diseases, but the whole organism as a unit. After the examination an individual course of treatment can be recommended. It can include the treatment by homeopathic preparations, sessions of bioresonant, resonance-frequency therapy.

**Nakatani-method:** it is a method of electropuncture diagnostics of functional state

meridians, based on measurement of electroconductivity in representative acupuncture points [4]. The diagnostics carried out with riodoraku lines, for the first time described by the Japanese doctor Nakatani; on these lines there are representative points of measurement (to the left and to the right), allowing to make opinion about the state of meridian as a whole. The majority of such points (points as helpers of a corresponding meridian) settles down in the area of wrist joint and in the area of foot which are not only connected with diseases of an organ, but they also reflect its physiological changes. There are "pathological" and "physiological" riodoraku lines. Nakatani explains this phenomenon as a viscerocutaneous sympathetic reflex. It is known, that the electric skin conductivity depends, first of all, on the condition of sympathetic part of vegetative nervous system, of trunk structures of brain and of reticular formations. The introduction of medicinal substances stimulating the activity of sympathetic trunk, increases the electroconductivity of skin, and the blocking reduces it considerable. Nakatani considers riodoraku to be a functional way to excite the corresponding sympathetic nerves caused by disease of internal organs.

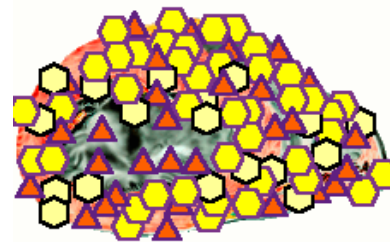
When interpreting the results, of a practical sense are not so much the absolute values, as the correlation of their parameters on the R-card. If the value of riodoraku for a concrete meridian is higher than the physiological corridor, it means the condition of redundancy and if it is lower, it means the condition of insufficiency. The patients can have a significant disorder of parameters. If there is difference of electrical inductivity on riodoraku line between the right and left side it is possible to define the side which can be most affected. If the state of health becomes better, these parameters can be normalized. In the moment the diagnostic device "Mediscreen" is being widely used to realize the method of Nakatani.

**Method of variational thermoalgometry** means the measurement of pain sensitivity thresholds when the biological active points are temperature influenced. The activity of meridian is reflected in the activity of its 13 acupuncture points, and the activity of a point defines the pain sensitivity in the place of its location, which, in its turn, defines the physiological state of corresponding organ. Thus, the method thermoalgometry allows to define the activity of meridians and, accordingly, to estimate the state of different organs and systems in their interaction [5,6,7].

However all the express-diagnostics methods mentioned above are rather approximate and relative ones, and the technique of their application is connected with examination of biological active points located not only on hands but on feet, too, and it can be not convenient for the patient. The influencing with a weak electrical potential when using the methods of Voll and of Nakatani method, and the reciprocal pain reaction when using thermoalgometry can cause in some cases deterioration of the patients state, of cardiovascular patients, particularly.

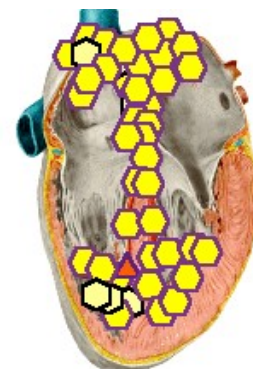
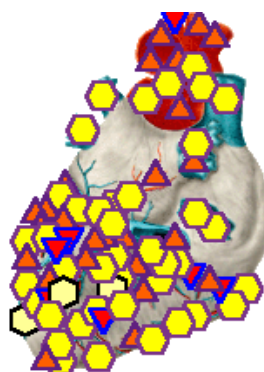
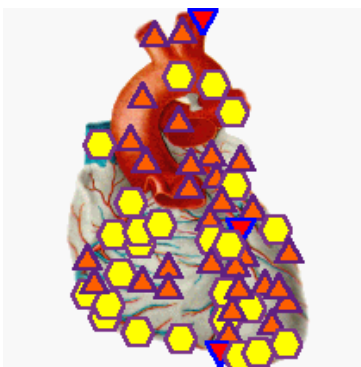
The optimal method to examine the patients with diseases of heart and vessels can be, in our opinion, bioresonant testing with using the hardware-software complex "Biolaz-Oberon" [8]. The method allows to estimate the electromagnetic field of the person which reflects, in its turn, the characteristics of cells, tissues, organs and systems. The technique of carrying out the bioresonant test with using the hardware software complex "Biolaz-Oberon" is not invasive one, it is not connected with any special conditions, the basic sensors are placed on the head, the auxiliary ones are in hands. The main advantage of the method is the opportunity of carrying out the topical diagnostics of pathological process and that is especially important for patients with cardiovascular diseases. The cartograms with the results of examination of several patients with diseases of cardiovascular system and of healthy people are shown below.

Figure 1. The given figure shows the cartograms of the healthy patient A., 43 years, who had no complaints about pains in the area of heart. The ECHOKG (echocardiography) and the EKG (electrocardiogram) didn't show any pathology. The markers identifying



Longitudinal section of heart

Cross-section of heart



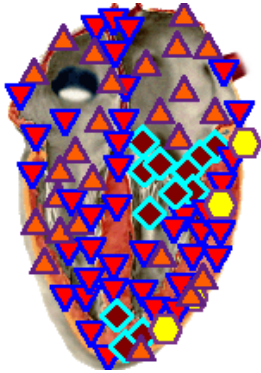
Heart forward wall vessels

Heart back wall vessels

Conducting system

Figure 2. The given cartogram shows the examination results of patient G., 25 years, having mitral valve defect (stenosis) confirmed by auscultation (loud,

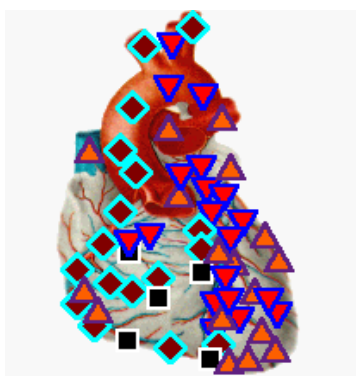
clapping tone I on the top, loud tone II and additional tone after the second one- «rhythm of a quail »), ECHOKG (mitral valve shutters are thickened, the echogenicity is increased, there is a characteristic “like a swan” bend of forward mitral valve shutter, KSR LP 4,2 cm in the M-mode SPPS< 3,5 cm, the moderate myocardial hypertrophy of the left atrium and of the right ventricle) and FKG (on the phonocardiogram –the strengthening of tone I on the top, after tone II is registered the additional tone of mitral valve opening, protodiastolic and presystolic noises). A congestion of pathological markers in the field of the forward and of the back mitral valve shutter draws our attention.



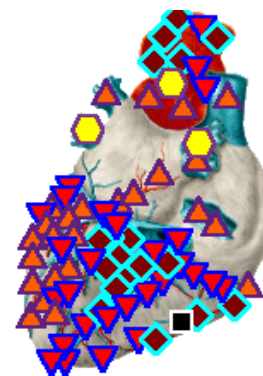
#### Longitudinal section of heart

---

Figure 3. The given figure shows the cartogram of patient D., 62 years, registered during a typical stenocardia attack. In the anamnesis there are: ischemic heart disease, rest angina. As the figure shows, in the basin of the forward and of the back coronary artery there are markers identifying the presence of an expressed pathology. On the electrocardiogram which have been taken till the moment of the full stopping the attack, the horizontal depression of segment ST is more than 1 mm practically in all branches.



#### Heart forward wall vessels

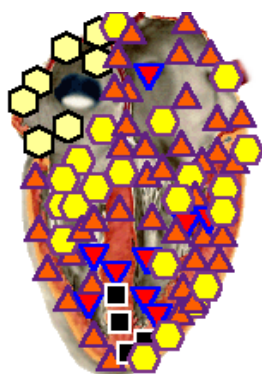


#### Heart back wall vessels

---

Figure 4. The given figure shows the cartogram of patient L., 48 years, who has had infarction in the field of left ventricle top. A congestion of pathological markers in the field of the left ventricle top draws our attention. The detected

pathology is confirmed by ECHOKG (reduced excursion of myocardium in the field of heart top) and by electrocardiogram (negative tooth T in the branches V4).



Longitudinal section of heart

---

As shown in the cartograms given above, the technique of bioresonance testing with the device "Biolaz-Oberon " gives the big opportunities when being used to estimate and to localize a pathologic process the people with diseases of cardiovascular system have, and the results in the most cases can be confirmed by the standard examination methods of cardiology. The given method can be used at carrying out of mass examinations as the method of preliminary express- testing to reveal the risk of an cardiac pathology or / and to specify the probability of concrete cardiac diseases, such as: postinfarction cardiosclerosis, ischemic illness of heart, exertional angina and rest angina, defects of valve heart apparatus.

#### **List of literature:**

1. Болезни сердца и сосудов./Под ред.Е.И. Чазова.//М., Медицина, 1992.
2. К.Пепайн.Ишемическая болезнь сердца.//Кардиология в таблицах и схемах/М.: Практика, 1996.
3. Гомеопатия и энергоинформатика. Лупичев Н.Л./Москва, «РОЙ», 1994.
4. Зубовский Г.А. Ультразвуковая диагностика и электороakupунктура.- Москва, 1992.
5. Василенко А.М., Демин С.А., Протопопов А.Ф., Демина И.Ф., Калинина Л.Н., Термосесов А.М., Дмитриева Л.Н., Четвериков Е.Н. Диагностическое значение термобольевых порогов и возможности клинического применения аппаратно-программного комплекса "РУНО". // IV Международный форум: "Стратегия здоровья: информационные технологии и интеллектуальное обеспечение медицины - 97". Тезисы докладов. М.: 1997, с.128-130
6. Метод вариационной термоалгометрии в традиционной диагностике. Методические рекомендации МЗ РФ № 99/95, Москва, 2000
7. Демин С.А., Демина И.Ф., Терехов Е.А., Беляев Е.А., Шарипова М.М. Термоалгометрическая рефлексодиагностика - программно-аппаратная реализация метода Акабане. // Материалы научно-практической

конференции