

influences, directed on optimization of the medical influence, differing differentiated by use hexagonal radiating matrixes, timed parameter to biological feedback;

4. The marketed algorithms of the analysis and processing to clinical information in the manner of automated module, directed on recognition metroendometritis, endometriosis and diffuse of the form fibromioma and differing way of the coding to information in the form of the parabolic dependency signs.

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DESIGN OF MECHATRONICAL UNIT WITH CAM ACTUATOR FOR ARTIFICIAL HEART VENTRICLE

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Last years in the world the tendency of increase in quantity of operations on implantation of the mechanical devices supporting heart activity as change of donor organ is connected with many insoluble biological and social problems is observed and cannot provide all needs. Today completely to satisfy need for donor hearts it is not possible, therefore the problem in creation of autonomous implanted systems of auxiliary blood circulation and artificial heart is extremely actual.

In the decision of this problem it is possible to allocate two basic directions: constant replacement of natural body with an artificial limb completely replacing pump function of heart and capable long years to support blood circulation that is total artificial heart; temporary replacement of function for the period of treatment of the heart before recovery of its functional ability. Methods of the temporary heart assistance and replacements of its delivery function by the mechanical devices relate to the last direction incorporated by concept « auxiliary blood circulation ».

By development of the mechatronical module of left ventricle assist device (LVAD) with executive mechanism of cam actuator type it is necessary to adhere to requirements of reliability of maintenance of a continuous flow in the system of blood circulation at given antipressure and a low trauma of blood, maintenance of stability of work at pulsing change of pressure and the charge on its input. It should guarantee full tightness of the working cavity of the pump in relation to the environment, have the minimal sizes and weight for implanted variants of application, a low level of pulsations and noise. Researches have shown, that this mechatronical module at the given characteristics is capable to satisfy the above described requirements.

As cam actuator was chosen triple mechanism with a target pusher. For replacement of a sliding friction with friction stagger and reduction of wear of a cam in the scheme of the mechanism the additional part – a roller is included. Mobility is local in this kinematical pair and does not change transfer functions of the mechanism. Given mechanism of the cam actuator is intended for transformation of linear motion of a cam to back and forth motion of the pusher. Thus in the executive mechanism of the given type, it is possible to realize transformation of movement under the complex law. One of the important advantages of the cam actuator is the opportunity of maintenance of the exact stops of the output. At the designing the given mechanism in structure of LVAD it is necessary to consider its heat-power characteristics, as at work of a drive a thermal emission is inevitable, but it does not reach so high values to lead to the heating of the body because motor works in a mode without reverse. This basic advantage of the offered design with a cam in comparison with earlier drive of the LVAD on the basis of roller-screw mechanism was developed in Vladimir State University.

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SPECIAL HEALTH FEATURES OF PARENTS AND PRIMOGENITORS OF THE GIRLS WITH MENSTRUAL FUNCTION FORMATION INFRINGEMENT IN THEIR PUBERTY.

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The revealing of infringements of girls-teenagers' menstrual reproductive function formation is based on the definition of the formation risk factors of their reproductive function, connected with their mothers' and close relatives' health. The genetic aspects of the menstrual function infringements, connected with the gene program deviations of reproductive function of many generations allow to assume the girls-teenagers' reproductive function character.

The purpose of our work was to reveal special health features of parents and primogenitors of the girls with menstrual function formation infringement in their puberty. The estimation of anamnestic and clinical characteristics of 232 married couples of mothers and the fathers having daughters with the menstrual function formation infringement, and also 232 married couples of grandmothers and grandfathers on the maternal side has been carried out.

Parents (116) and primogenitors (116) of 15-18-year-old girls with the menstrual function formation infringement in their puberty formed the basic group. Married couples of parents (116) and primogenitors (116) of girls with physiological puberty formed the comparison group. While estimating the distinctions Student t-criterion was used.

In the basic group of mothers the significant increase of somatic and gynecologic diseases has been revealed, the last having appeared in their reproductive age. Authentically the diseases of ENT-organs 90 (77,6 %), cardiovascular 97 (83,6 %), endocrine 99 (85,3 %), digestive 64 (55,2 %) and respiratory 34 (29,3 %) systems occurred more often. At mothers in the comparison group the diseases of these systems occurred accordingly 29 (25,0 %), 46 (39,7 %), 33 (28,4 %), 19 (16,4 %), 13 (11,2 %). From gynecologic diseases in the basic group of mothers authentically more often the background disease of uterine cervix 67 (57,8 %), menstrual period infringements 46 (39,7 %), inflammatory true pelvis diseases 56 (48,3 %) and benign new growths of uterus and ovaries 40 (34,5 %) occurred. At mothers having daughters with physiological puberty the diseases occurred accordingly 42 (36,2 %), 20 (17,2 %), 32 (27,6 %) and 11 (9,5 %).

In the group of fathers having daughters with the menstrual function formation infringement, the authentic increase of diseases of bronchi-pulmonary system 53 (45,7 %) has been noted, in the comparison group these diseases being noted less often 36 (31,0 %). Grandmothers of the basic group suffered authentically more often from the diseases of cardiovascular 94 (81,0 %), endocrine 77 (66,4 %), digestive 55 (47,4 %) systems, whereas grandmothers of the comparison group suffered from those accordingly 26 (22,4 %), 28 (24,1 %), 26 (22,4 %). The grandmothers having grand daughters with the menstrual function formation infringement, authentically more often had benign and malignant new growths of reproductive organs 44 (37,9 %), in the comparison group - accordingly 12 (10,3 %). Grandfathers of the basic group suffered authentically more often from the diseases of cardiovascular 90 (77,6 %), bronchi-pulmonary 60 (51,7 %) and nervous 39 (33,6 %) systems, whereas in the comparison group grandfathers suffered from the same diseases twice as less often 45 (38,8 %), 39 (33,6 %), 15 (12,9 %) ($p < 0,05$).

Thus, somatic and reproductive diseases of girls' parents and primogenitors are a negative background for their reproductive function formation. The realization of the gene