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EARLY DIAGNOSIS OF CARDIOVASCULAR DISEASE IN ATHLETES

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ABSTRACT

In athletes, pathology of the cardiovascular system occupies a leading position in terms of their incidence. Functional changes in the cardiovascular system are an early sign of a change in the state of adaptation in the body of a trained athlete, and decreased ability to work, manifested by clinical signs of certain diseases in this system. In this article, a survey was conducted in athletes for early diagnosis of cardiovascular disease.

Keywords: sports, physical exertion, strained heart, excess body mass

RELEVANCE

As a result of the usual physical and psycho-emotional stress of athletes, there is an increase in the performance of the human body. Abnormal physical stress leads to dysfunction of many organs and systems, neuroendocrine regulation and pathological changes in the cardiovascular system. one of the main problems in the field of cardiology is the study of the mechanism of impairment of flexibility in the cardiovascular system of athletes during physical exertion.

Modern sports are associated with many physical and psycho-emotional stresses. The difficulty of performing sports exercises increases the body's flexibility. The same physical stresses increase the activity of the cardiovascular system, allowing the athlete to use the body's reserves more efficiently. or lack of continuous training processes and time, leading to the restoration of the functional state of the circulatory system, impaired flexibility of the organism and increased risks of stress.[5,13,14,15]

For many years, the cardiovascular system of athletes has been the object of study of our own and foreign authors. However, many problems are waiting to be solved. For the first time in medicine, the German scientist Henshen introduced the concept of "athlete's heart".

Athletes understand very well that the study of the cardiovascular system is very important in solving a number of major problems of cardiology in modern sports medicine.[8,12].

In the 1960s and 1970s, the term "heart strain" was used in the hearts of injured athletes in foreign literature. F. In his classification of myocardial dystrophy, Lang called “dystrophy” a “heart injury” in these athletes. (1936). For many years, the term has been used in many scientific research facilities and clinical practices. [2.6].

Thus, early detection of diseases of the cardiovascular system in young athletes, prevention of disability in adolescents as a result of high stress is one of the most pressing problems of sports medicine. In Uzbekistan, there is no research on early detection and prevention of cardiovascular disease in young athletes. This, in turn, requires young athletes to conduct modern laboratory-instrumental methods and surveys for early detection of diseases of the cardiovascular system, the application of which in medical practice based on the results obtained.

OBJECTIVE

To develop criteria for early detection and prevention of pathological changes in the cardiovascular system of athletes. Materials and methods, we conducted a survey among athletes with complaints and changes in the cardiovascular system and analyzed the questionnaire of these athletes. These are 50 young athletes from Kagan Sports School in 2017-2019 with 2-5 years of sports experience, 8-18 years (average age - 15.5 ± 0.3 years). These athletes are involved in volleyball, basketball and futsal. engaged.

RESULTS AND THEIR DISCUSSION

Complaints of 50 athletes (dizziness, signs of weakness and pain in the heart area), anamnesis (hereditary predisposition), laboratory (general blood test) and instrumental (heart area noises on auscultation, changes in ECG) examined by a sports physician based on the results, there was a possibility of pathological changes in the cardiovascular system and concomitant diseases in 29 athletes, which accounted for 58% of the total.

Of these, 8 (26.1%) athletes had acquired cardiovascular pathology, 21 (73.9%) athletes had concomitant diseases. However, 39 out of 50 (100%) athletes, is 78%, were diagnosed with chronic anemia.

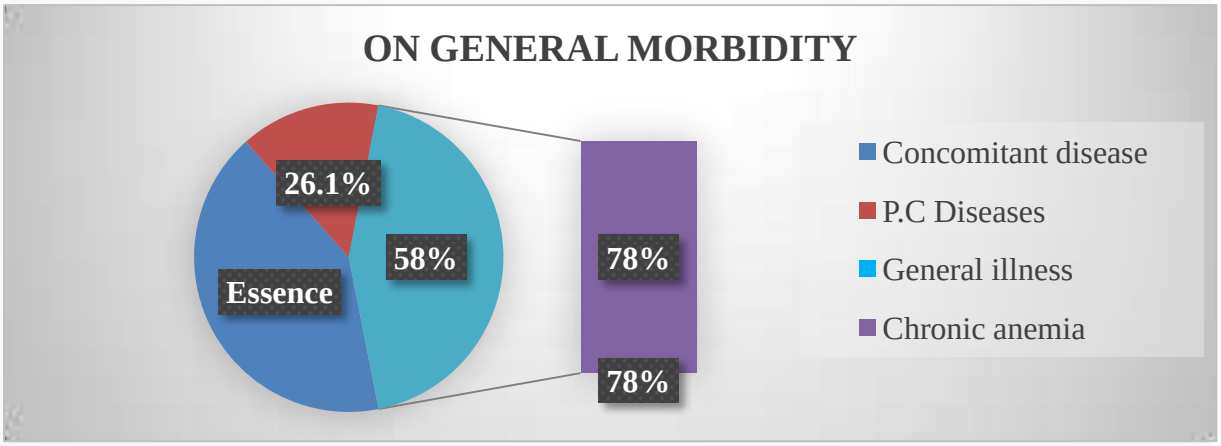

Figure 1. Results of the survey on common diseases (%).

Acquired cardiovascular disease in 8 (26.1% / 100%) of the athletes was distributed as follows: Half of the acquired diseases in the study group were post-stress cardioroneurosis 4 (50%), bradycardia as a result of stress in one of the two athletes symptom was detected and u2 (25%) in 1, 12 (12.5%) athletes with hypertension, ARVI and infectious myocarditis caused by chronic focal infection were detected in 1 (12.5%) athletes.

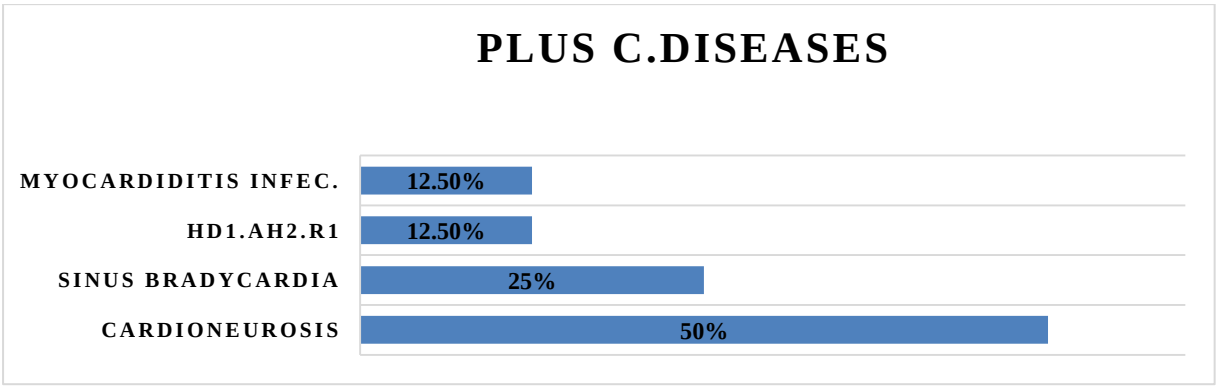

Figure 2. Acquired cardiovascular system diseases (%).

21 (73.9% / 100%) athletes with concomitant diseases were distributed as follows: 5 (22%) athletes with chronic gastritis, 9 (42.8%) athletes with diffuse goiter, and the remaining 7 (35.2%) chronic tonsillitis was detected in athletes.

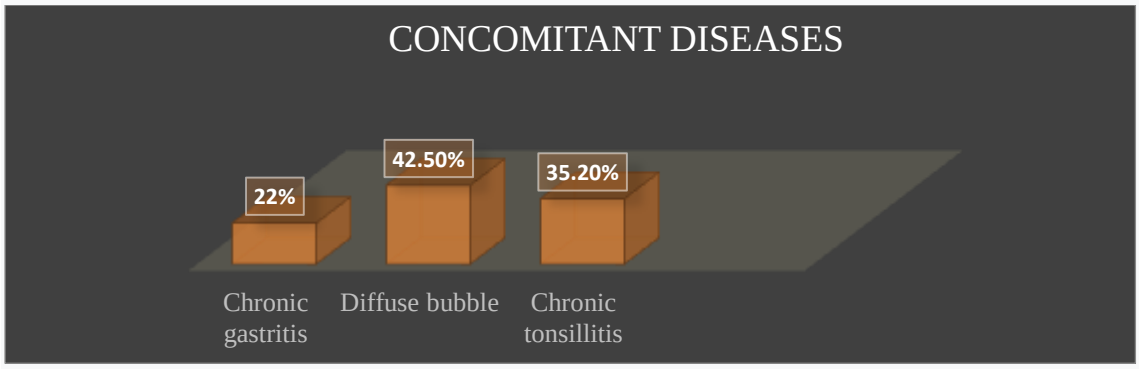

Figure 3. Cases of related diseases (%)

Chronic focal infection was observed in practice in one in three athletes in 16 (29%) cases. Of these, 3 (19.5%) athletes once every 3-6 months, 6 (37.5%) athletes once a year, and less than the remaining 7 (44%) athletes for 2-3 years or longer 1 time prophylactic treatment (Fig.4).

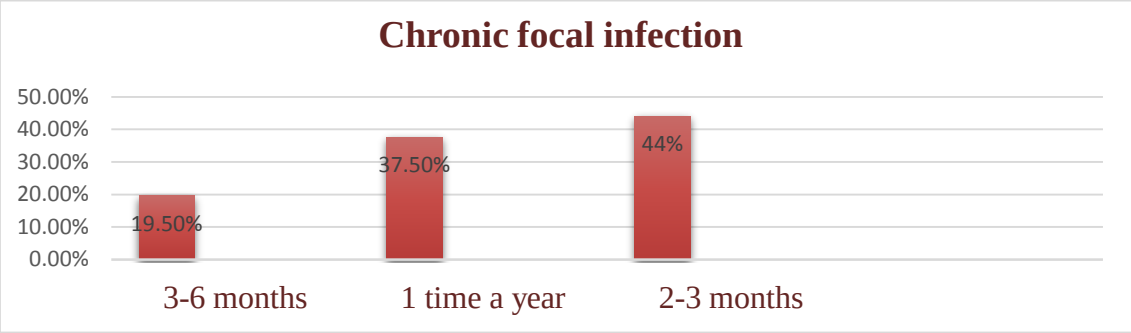

Figure4. Survey analysis of the presence of a chronic infection source.

The body mass index (BMI) of 50 young athletes was 22 kg / m2 in 4 (8%) futsal players of the main group and 28 kg / m2 in 6 (12%) volleyball players of the control group. 0 (23.5-25.5) kg / m2, and in the control group - 28.0 (26.0-32.0) kg / m2, r <0.001.

A healthy lifestyle of professional athletes was considered. It was found that the number of smokers in the control group was higher than in the main group. The number of smokers in the main group was 3 (6.7%) and the number of smokers in the control group was 5 (11.1%). r = 0.73 (Table 1)

Observance rate of overweight and smoking in athletes

№	Main group	Control group
1. Excess body mass (MU)	**6 (12%)**	**4 (8%)**
	28,0 (26,0-32,0) kg/m^2	**22,0 (23,5-25,5) kg/m^2**
	p<0,001	

2. Excess body mass (MU)	**3 (6,7%)**	**5 (11,1%)**
	p=0,73	

According to our survey, 62% of athletes ate fruits and vegetables 4-5 times a week, 42% of milk and dairy products, 37% of meat products, one in three athletes, and the remaining 47% of eggs and fatty foods in the diet of athletes 1- 2 times (Fig. 5)

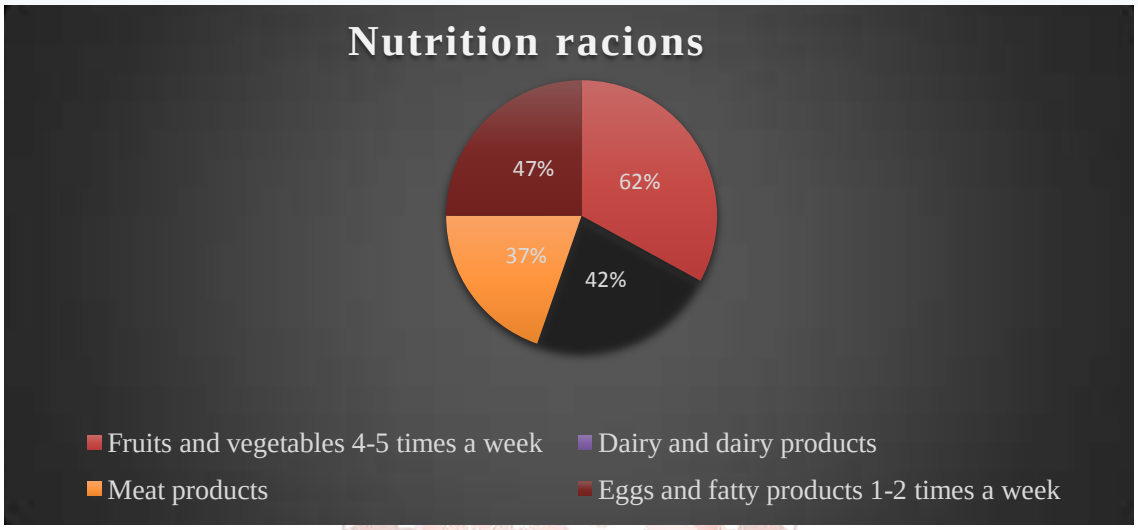

Figure 5. Results of the food survey

Among the main and control groups allowed for training and competitions, 8 (16%) athletes in the control group were found to have a predisposition to develop hypertension when the blood pressure was measured 3 times using the Letunov method to detect the development of hypertension early. %) AD-1 (110 / 70,120 / 80), 6 (24%) AD-2 (130 / 80,140 / 90). 9 (36%) of the control group athletes had AD-1 (120/80). , AD-2 (140/90) in 14 (56%) and AD-3 (150/100) in the remaining 2 (8%) athletes. (Table 2)

Blood pressure in athletes

№	Name	Main Group	Control Group
1.	Arterial blood pressure stage 1	19(76%) AH- 1(110/70,120/80)	9(36%) AH-1(120/80),
2.	Arterial blood pressure-stage 2	6(24%) AH-2(130/80,140/90)	14(56%) AH-2(140/90)
3.	Arterial blood pressure stage 3	0	2(8%) AH-3(150/100)

CONCLUSION

1.50 athletes, 29 (58%) had pathologies of the cardiovascular system and co-morbidities, of which 8 (26.1%) had acquired pathologies of the cardiovascular system, 21 (73.9%) had co-morbidities but 50 (Of the 100%) athletes, 39 (78%) were diagnosed with chronic anemia. Cardiovascular diseases acquired from

2.8 (26.1% / 100%) athletes: cardio neurosis 4 (50%), bradycardia 2 (25%), hypertension 1 (12.5%), 1 as a result of ARVI (12.5%) were diagnosed with infectious myocarditis.

3.21 (73.9% / 100%) of athletes have concomitant diseases: 5 (22%) athletes have erosive gastritis, 9 (42.8%) athletes have diffuse goiter and the remaining 7 (35.2%) athletes have chronic tonsillitis detected.

4. Chronic foci of infection 16 (29%), of which 3 (19.5%) t athletes once every 3-6 months, 6 (37.5%) athletes once a year and the remaining 7 (44%) less than 2 years of prophylactic treatment for 2-3 years and longer than athletes.

5. Excess body mass is 22.0 (23.5-25.5) kg / m2 in 4 (8%) of the main group, and 28.0 (26.0-32.0) in -6 (12%) of the control group.) kg / m2, r <0.001. The number of smokers in the main group was 3 (6.7%), and the number of smokers in the control group was 5 (11.1%), r = 0.73.

6. In the weekly diet 62% were fruits and vegetables, milk and dairy products - 22%, meat products - 7%, the remaining 9% - eggs and fatty foods.

7. When measuring blood pressure using the Letunov method, 19 (76%) in the main group had AD-1 (110 / 70,120 / 80), 6 (24%) had AD-2 (130 / 80,140 / 90), and 9 in the control group. (36%) had AD-1 (120/80), 14 (56%) had AD-2 (140/90), and 2 (8%) had AD-3 (150/100). Thus, in all sports that require physical and psycho-emotional stress, overweight, hypercholesterolemia, smoking, chronic diseases, poor diet, non-compliance with the schedule and excessive exercise that does not correspond to the strength of the body during exercise can lead to cardiovascular disease. is one of the leading risk factors.

Therefore, sports physicians should work with athletes and coaches to prevent the occurrence of the above risk factors. they should explain not to.

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