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FEATURES OF CLINICAL AND DIAGNOSTIC CHANGES IN CORONARY HEART DISEASE

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Abstract:

Purpose of the study. To study the relationship of ischemic changes on the ECG with the duration of the pain syndrome. Materials and methods. The study was conducted in polyclinics and clinics in Bukhara. The survey included 1332 people complaining of pain in the chest and in the left arm. 167 people were diagnosed with coronary artery disease. Moreover, on the ECG taken at rest in 117 patients with coronary artery disease, ischemic changes were detected, and in 50 patients such changes were not detected. The average age of the surveyed was 51.7+2.6 years. ECG was taken on a 6-NEK electrocardiograph at rest in 12 conventional leads Results.

Keywords: chest pain, ischemic changes, ischemic heart disease, EKG

INTRODUCTION. The success of effective treatment and prevention of coronary artery disease is largely associated with the early diagnosis of this disease. Currently, a number of diagnostic methods are used to detect CAD, which include interviews, electrocardiography (ECG), echocardiography (EchoCG), coronary angiography, various pharmacological tests and exercise tests [2,5,12,13,14,15,16,17].The most accessible methods for diagnosing coronary artery disease in primary health care, where patients first turn, are interviews and ECGs. However, an ECG taken at rest does not always reveal ischemic changes in the myocardium [1,4,8,9,10,11].

The survey method for diagnosing IHD, proposed by Rose J., Blackburn H. in 1968, is quite simple, economical, accessible and is of great importance for identifying IHD in outpatient settings and conducting mass preventive examinations of the population. However, this method allows us to identify only cases of typical exertional angina when there is a clearly defined pain attack. At the same time, in their practice, doctors encounter cases of atypical or painless course of the disease. In such cases, the value of this questionnaire is significantly reduced [8,21,22,23,24].

When assessing the clinical picture of coronary artery disease, the frequency of various pain sensations is important. At the same time, these pain sensations can be manifestations not only of ischemic heart disease, but also of many other diseases other than ischemic heart disease. Therefore, studying the connection between the presence and amount of pain, on the one hand, and the presence of ECG changes, on the other, to a certain extent, is a characteristic of the connection between pain and coronary heart disease [1,6,7,18,19,20].

PURPOSE OF THE STUDY. To study the relationship between ischemic changes on the ECG and the duration of pain**.**

MATERIALS AND METHODS. The study was conducted in family polyclinics in Bukhara. The survey included 1332 people complaining of pain in the chest and left arm. 167 people were diagnosed with IHD. An ECG taken at rest in 117 patients with coronary artery disease revealed ischemic changes, and in 50 patients no such changes were detected. The average age of those examined was 51.7+2.6 years. The ECG was taken using a 6-NEK electrocardiograph at rest in 12 standard leads. Analysis of data on coronary artery disease was carried out according to the Minnesota code according to the following criteria: definite myocardial infarction - the presence of scar changes on the ECG (categories 1-1.2 MK); angina pectoris – the presence of pain syndrome that meets the criteria of the WHO questionnaire, in the absence of categories 1-1,2 MK; painless ischemic heart disease - in the presence of ischemic changes on the ECG (categories 4-1.2 and 5-1.2 MC) in the absence of left ventricular hypertrophy, angina pectoris and categories 1-1.2 MC; possible history of myocardial infarction (according to the WHO questionnaire) - in the absence of cicatricial and ischemic changes on the ECG, as well as angina pectoris; possible ischemic heart disease, including possible cicatricial changes in the myocardium according to ECG (categories 1-2-8 and 1-3 MK), possible myocardial ischemia (categories 4-3, 5-3 MK), arrhythmic form (categories 6-1,2; 7 -1 and 8-3 MK), myocardial ischemia in the presence of left ventricular hypertrophy (categories 4-1.2 and 5-1.2 in the presence of 3-1.3 MK). Among individuals without ischemic

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changes on an ECG taken at rest, the diagnosis of IHD was established on the basis of positive exercise tests.

RESULTS OF THE STUDY AND DISCUSSION.

To study the relationship between pain and ECG changes, the prevalence of pain among individuals with and without ischemic changes on the ECG was studied. Analysis of the data obtained showed that pain among patients with coronary artery disease is significantly more common than among people without this disease (table1).

Table 1

Frequency of pain depending on the presence of ischemic changes on the ECG on average over 1 month

Presence of IHD	No IHD	IHD	
Availability ECG changes	No ECG changes	ECG -	ECG +
n	1165,00	50,00	117,00
M	0,83	7,26 *	2,07 * §
± δ	0,33	0,94	0,47

Note: the table shows the significance of the differences in indicators - *) between groups with and without ischemic heart disease; § - between groups with and without ECG changes.

Next, the frequency of pain episodes was studied (Fig. 1). The data obtained do not sufficiently clarify the situation regarding the relationship between the duration of the pain syndrome and the presence of ischemic changes on the ECG.

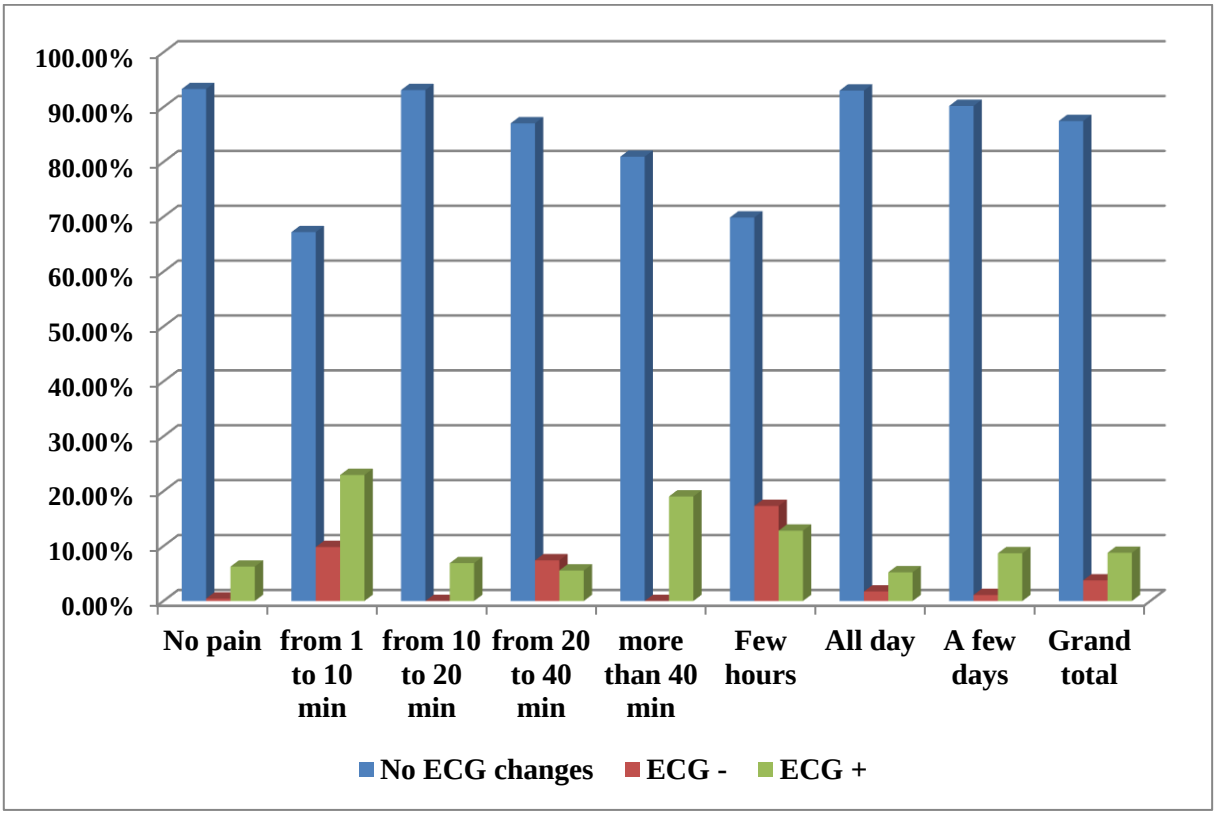

Figure 1. Frequency of pain depending on the presence of ischemic changes on the ECG on average over 1 month

Therefore, the frequency of ischemic heart disease and ischemic changes on the ECG was considered according to the duration of the pain syndrome. The subjects were divided into groups depending on the following duration of pain: from 1 to 5 minutes, from 6 to 10 minutes and 11 to 15 minutes. This distribution was chosen due to the fact that, according to the WHO questionnaire for identifying stable angina pectoris, pain lasting up to 10 minutes is typical for IHD. At the same time, for a more detailed study of the relationship between the duration of pain and the presence of ischemic heart disease, groups up to 5 and up to 10 minutes were considered, as well as for comparison, groups with pain duration from 11 to 15 minutes.

This analysis made it possible to establish an inverse relationship between the duration of the pain syndrome and the incidence of coronary artery disease and ischemic changes on the ECG (Table 2).

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According to the data obtained, the highest frequency of ischemic changes on the ECG is observed among individuals with the shortest duration of pain. Moreover, among people whose pain lasts no more than 5 minutes, the frequency of ischemic changes on the ECG is 2.5 times higher than among those whose pain lasts from 6 to 10 minutes, and 4 times more often than among patients with a duration of pain syndrome from 11 to 15 minutes. In general, IHD occurs 2 times more often when pain lasts up to 5 minutes than when pain lasts from 6 to 10 minutes and 5.4 times more often than when pain lasts from 11 to 15 minutes.

Table 2

Prevalence of ischemic heart disease and ischemic changes on the ECG among individuals differing in the duration of pain syndrome

Duration pain	No IHD	without ischemic heart disease ECG	IHD with ECG	Total IHD	Generally	
					n	%
up to 1 min	57,14	-	42,86	42,86	7	100,00
2-3 min	57,45	10,64	31,91 §	42,55	47	100,00
4-5 min	67,74	12,9	19,35 §	32,26	31	100,00
1-5 min	61,18	10,59	28,23 §	38,82	85	100,00
6-10 min	80,56	8,33	11,11 *	19,44 *	21	100,00
11-15 min	92,86	-	7,14 *	7,14 *	28	100,00

Note: the table shows the significance of the differences in indicators regarding: *) the group with pain duration up to 5 minutes; §) groups without ischemic changes on the ECG.

It should be noted that the prevalence of ischemic changes on the ECG and coronary artery disease in general among individuals with a pain syndrome duration of up to 5 minutes were statistically significantly different from similar indicators in groups with a longer pain syndrome. Such reliability was not found regarding the prevalence of ischemic heart disease without ischemic changes on the ECG.

Among individuals with a pain duration of up to 5 minutes, the prevalence of cases of ischemic heart disease with ischemic changes on the ECG was 2.7 times higher than the frequency of cases of ischemic heart disease without ischemic changes on the ECG, and these differences were statistically significant. However, among individuals with a longer duration of pain (from 6 to 10 minutes), the prevalence of cases of ischemic heart disease with ischemic changes on the ECG did not differ significantly from the prevalence of ischemic heart disease without ischemic changes on the ECG, and these differences were not statistically significant.

CONCLUSIONS

1. Ischemic changes on the ECG were observed in 22.95% of cases among individuals whose pain lasted up to 10 minutes.
2. With the shortest duration of pain, the frequency of ischemic changes on the ECG is greater than with prolonged pain.
3. There is an inverse relationship between ischemic changes on the ECG and coronary artery disease - as the duration of pain decreases, it is associated with an increase in the prevalence of ischemic changes on the ECG and coronary artery disease.

LITERATURE

1. 1.Кардиоваскулярная профилактика 2017. Российские национальные рекомендации // Российский кардиологический журнал. – 2018. – № 6. – С. 7–122.
2. 2.Malakar AK, Choudhury D, Halder B, Paul P, Uddin A, Chakraborty S. A review on coronary

World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
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artery disease, its risk factors, and therapeutics. / J Cell Physiol. 2019 Aug;234(10):16812-16823. DOI: 10.1002/jcp.28350. Epub 2019 Feb 20

3. 3.Жураева Х. И. Влияние Компонентов Метаболического Синдрома На Клиническое Течение Острого Коронарного Синдрома //BOSHQARUV VA ETIKA QOIDALARI ONLAYN ILMIY JURNALI. – 2021. – Т. 1. – №. 6. – С. 71-76.
4. 4.Жураева Хафиза Искандаровна, and Алимова Шахноза Азаматкизи. "Применение опросного метода в ранней диагностике стенокардии в качестве скринирующего теста при профилактических обследованиях населения" Биология и интегративная медицина, no. 6, 2017, pp. 14-22.
5. 5.Жураева Хафиза Искандаровна, Каюмов Лазиз Холмуродович, Убайдова Дилафруз Садиковна, and Джабборов Жавохир Жалолидинович. "Взаимосвязь инфаркта миокарда с метаболическим синдромом" Биология и интегративная медицина, no. 4 (32), 2019, pp. 66-77.
6. Хамдамов И.Б. Клиническая оценка эффективности традиционного подхода лечения грыж передней брюшной стенки у женщин фертильного возраста // Вестник врача. –Самарканд 2022. № 2.2 (104).-С.65-70.
7. 7.Khamdamov I.B., Khamdamov A.B. Differentiated approach to the choice of hernioplasty method in women of fertile age (Clinical and experimental study) // Тиббиётда янги кун. – Бухоро, 2021.-№ 6 (38/1).-С. 112-114.
8. 8.Хамдамов И.Б., Хамдамов А.Б. Фертил ёшдаги аёлларда эндовидеохирургик герниопластика // Тиббиётда янги кун. Бухоро, 2021.-№6 (38/1) -С. 25-27.
9. 9.Хамдамов И.Б. Experimental determination of the extensibility of the anterior abdominal wall tissues at different times of pregnancy using various approaches to hernioplasty// Academicia: An International Multidisciplinary Research Journal Vol. 12, Issue 04, April 2022 SJIF 2022 = 8.252 P.193-201
10. 10.Хамдамов И.Б. Совершенствование тактических подходов в лечении грыж передней брюшной стенки у женщин фертильного возраста // Тиббиётда янги кун. Бухоро, 2022.-№10(48)- С. 338-342.
11. 11.Хамдамов И.Б. Морфофункциональные особенности брюшного пресса у женщин репродуктивного возраста // Тиббиётда янги кун. Бухоро, 2022.-№3(41)- С. 223-227.
12. 12.Khamdamova M.T. Ultrasound features of three-dimensional echography in assessing the condition of the endometrium and uterine cavity in women of the first period of middle age using intrauterine contraceptives // Biology va tibbyot muammolari. - Samarkand, 2020. - No. 2 (118). - P.127-131.
13. Khamdamova M. T. Ultrasound assessment of changes in the endometrium of the uterus in women of the first and second period of middle age when using intrauterine and oral contraceptives // Биомедицина ва амалиёт журнали. – Ташкент, 2020. - №2. - 8 часть. - С.79-85.
14. 14.Khamdamova M. T. Anthropometric characteristics of the physical status of women in the first and second period of middle age // A new day in medicine. Tashkent, 2020. - № 1 (29). - С.98-100.
15. Khamdamova M.T. Age-related and individual variability of the shape and size of the uterus according to morphological and ultrasound studies // News of dermatovenereology and reproductive health. - Tashkent, 2020. - No. 1-2 (88-80). - P.49-52.
16. Khamdamova M. T. Anthropometric characteristics of the physical status of women in the first and second period of middle age // Тиббиётда янги кун. Ташкент, 2020. - № 1 (29). - С.98-100.
17. 17.Хамдамова М.Т. Возрастная и индивидуальная изменчивость формы и размеров матки по данным морфологического и ультразвукового исследований // Новости дерматовенерологии и репродуктивного здоровья. - Ташкент, 2020. - № 1-2 (88-80). - С.49-52.
18. 18.Хамдамова М.Т. Ультразвуковая особенности трехмерный эхографии в оценке состояния эндометрия и полости матки у женщин первого периода среднего возраста применяющие внутриматочные контрацептивные средства // Биология ва тиббиёт муаммолари. - Самарканд, 2020. - №2 (118). - С.127-131.
19. 19.Khamdamova M. T. Ultrasound assessment of changes in the endometrium of the uterus in women of the first and second period of middle age when using intrauterine and oral contraceptives // Биомедицина ва амалиёт журнали. – Ташкент, 2020. - №2. - 8 часть. - С.79-85.
20. 20.Хамдамова М.Т. Особенности ультразвуковых параметров матки у женщин первого и второго периода среднего

World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
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ISSN: 2749-3644

возраста применяющие инъекционные контрацептивные средства // Тиббиётда янги кун. - Ташкент, 2020. - № 2/1 (29/1). - С.154-156.

21. 21.Хамдамова М.Т. Особенности ультразвукового изображения матки и яичников у женщин второго периода среднего возраста применяющие комбинированные оральные контрацептивные средства // Тиббиётда янги кун. - Ташкент, 2020. - № 2 (30). - С. 258-261.
22. 22.Хамдамова М.Т. Индивидуальная изменчивость матки и яичников у женщин применяющие и не использующие различные виды контрацептивные средства // Тиббиётда янги кун. - Ташкент, 2020. - № 3 (31). - С. 519-526.
23. 23.Khamdamova M. T. Echographic features variability in the size and shape of the uterus and ovaries in women of the second period of adulthood using various contraceptives // Asian Journal of Multidimensional Research - 2020. – N9 (5). - P.259-263.
24. 24.Khamdamova M. T. Somatometric characteristics of women of the first and second period of adulthood using different contraceptives with different body types // The american journal of medical sciences and pharmaceutical research - 2020. – N8 (2). - P.69-76.