INTERNATIONAL JOURNAL OF
ALTERNATIVE AND
CONTEMPORARY THERAPY

Clinical and Epidemiological Aspects of Chronic Heart Failure Formation in the Population of Andijan

Kityan S. A.

Candidate of Medical Sciences, Associate Professor Andijan State Medical University

Annotation: Chronic heart failure (CHF) is one of the most pressing problems in modern cardiology, representing the final stage of most cardiovascular diseases. In recent decades, there has been a steady increase in the prevalence of CHF worldwide, which is associated both with increased life expectancy of the population and improved survival rates of patients with various cardiovascular pathologies.

Keywords: chronic heart failure, epidemiology, risk factors, population study, Andijan, prevalence, cardiovascular diseases, regional features

Introduction. Studying the regional characteristics of chronic heart failure (CHF) formation and progression has gained particular significance, considering the influence of climatic, geographical, socio-economic, and ethnic factors on the development of this syndrome. The city of Andijan, being a major industrial and cultural center of the Fergana Valley, presents special interest for conducting an epidemiological study of CHF, as it has a number of unique characteristics affecting the health of the population.

Despite significant achievements in the diagnosis and treatment of CHF, many aspects of its epidemiology, especially at the regional level, remain insufficiently studied. The lack of comprehensive data on the prevalence of CHF, risk factors, and peculiarities of its formation in the population of Andijan complicates the development of effective preventive measures and the optimization of therapeutic and diagnostic approaches.

A comprehensive study of the clinical and epidemiological aspects of CHF formation in a specific region will identify the most significant risk factors, determine priority areas for prevention, and optimize patient management tactics considering local characteristics. The obtained data can become the basis for developing regional programs for the prevention and treatment of CHF, which will contribute to reducing morbidity and mortality from this pathology.

Materials and research methods: The present study includes an analysis of population data on CHF and its main risk factors among the non-organized adult population of Andijan. The study was conducted at Family Polyclinic No. 8 in Andijan, the Department of "Faculty Therapy," and the 1st and 5th Cardiology Departments of the Andijan State Medical Institute clinics. The design and methodology of the study were based on the Russian EPOCH-CHF study. In the first stage, a screening study was planned, followed by questionnaire completion and the creation of a representative sample of the Andijan population. For this purpose, individuals with "probable" CHF were identified. The second stage involved in-depth interviews and examination of individuals with "probable" CHF. The prevalence of CHF in the population was established. The third stage consisted of prospective observation of a group of patients with "true" CHF, aimed at determining risk factors and progression, and developing methods for predicting the progress of CHF

The results of the screening survey conducted among the adult population allowed the analysis of clinical and demographic data characterizing the population of Andijan (n=1802). The following epidemiological and demographic situations were identified: social status, education, blood pressure

levels, CVD risk factors, dietary habits, overweight and obesity, as well as the presence of CHF symptoms.

Social status. When analyzing the social status of the population, it was revealed that the working segment constituted 49.9% (900 people), while the non-working contingent was 50.1% (902 people). From this contingent, the following population groups emerged: retirees – 13.5% (243 people), students – 18.9% (340 people), disabled individuals – 4.8% (87 people).

Education. Vocational education among the surveyed represented the highest percentage – 35% (631 people); 29.7% (535 people) had higher education, secondary education – 18.5% (333 people); 9.9% (179 people) had incomplete secondary education, unfinished higher education – 3.5% (63 people), and primary education – 3.4% (61 people).

Blood pressure indicators. 740 people reported blood pressure elevation above 140/90 mm Hg, which constituted 41.1%; of these, women – 479 people (64.7%) and men – 261 people (35.3%), meaning women were almost twice as numerous. At the age of 18-19 years, arterial hypertension was identified at a level of 0.3% (5 people), and blood pressure elevation increased with age in both men and women. At the same time, the diagnosis of hypertension was established in only 402 people (22.3%); in other words, slightly less than half of those surveyed with elevated blood pressure ignored visiting a doctor for medical help and did not receive appropriate antihypertensive therapy. This corresponds to the data from Uzbek and Russian scientists about the dissonance between the presence of elevated blood pressure, the established diagnosis of hypertension, and the applied antihypertensive therapy.

Smoking. Among the total number of surveyed individuals, 300 people (16.7%) were smokers, with males comprising the majority at 98% (294 people).

Dietary habits. A preference for fatty foods was demonstrated by 1277 people (70.9%), while excessive salt consumption was noted in 750 people (41.6%).

Overweight and obesity. 685 respondents (38.1%) reported having excess weight > 25 kg/m², and elevated BMI > 30 kg/m² and signs of obesity were identified in 102 (5.7%) of those surveyed.

Alcohol. The mentality of the population did not include traditions of alcohol consumption, and therefore the survey results were as expected. The majority of those surveyed did not consume alcohol – 91.8% (1655 people), daily consumption was reported by 2.5% (45 people), 2.5% (45 people) consumed alcohol once a week, and 3.0% (54 people) noted alcohol consumption 1-2 times per year [42, p.64-65].

Symptoms of Chronic Heart Failure

Clinical signs of CHF and their combinations were present in the majority of those surveyed – 57.4% (1034 people). A representative sample of the Andijan population was taken to analyze the frequency of the main CHF symptoms. Through patient interviews, complaints were collected, based on which the occurrence of these symptoms was determined, both individually and in combination (Fig. 3.1).

Fatigue was the most frequently encountered symptom. The presence of this symptom was found in the majority of those surveyed – 1099 people (61%), with 360 people (20%) positioning it as the sole leading symptom, while fatigue in combination with other symptoms was noted in 739 patients (41%). The reason why fatigue emerged as the primary symptom is quite explainable. Often, during interviews, patients include in this concept the everyday sensation of weakness, which in itself can be physiological as it is associated with some physical or mental activity. In our study, the assessment of fatigue syndrome severity was conducted using a modified "Fatigue" questionnaire (Kots Y.I., 2008) [25, p.39-40].

Shortness of breath or feeling of air hunger, ranging from mild to severe, affected a total of 647 people (35.9%), presenting as the only symptom in 96 individuals (5.3%), and in combination with other symptoms in 551 people (30.6%). Palpitations (accelerated or sensation of strong heartbeat) ranked third in frequency, noted in 644 people (35.7%), appearing as a single symptom in 47 individuals (2.6%) and in combination with others in 597 people (33.1%). Edema in the lower extremities

(puffiness, swelling), as an objective symptom, was identified in 516 subjects (28.6%), presenting as a single symptom in 46 people (2.6%) and in combination with others in 470 people (26.0%).

Conclusions

The study of risk factors among the Andijan population revealed widespread dietary risk factors with 70.9% of respondents preferring fatty foods and 41.6% consuming excessive salt. Tobacco use was identified in 16.7% of subjects, predominantly in males (98% of smokers). Overweight and obesity were recorded in 38.1% and 5.7% of the population, respectively. Alcohol consumption was notably low, with 91.8% of respondents abstaining from alcohol.

Clinical manifestations of chronic heart failure were observed in 57.4% of the surveyed population, indicating a high prevalence of CHF in the Andijan region. The symptom distribution demonstrated that fatigue was the predominant clinical manifestation, affecting 61% of respondents (as a single symptom in 20% and in combination with other symptoms in 41%).

Analysis of symptom patterns revealed that dyspnea affected 35.9% of the population, palpitations were present in 35.7%, and lower extremity edema was observed in 28.6%. The majority of patients presented with combinations of symptoms rather than isolated manifestations, with 16.5% showing combinations of two symptoms, 11.4% with three symptoms, and 10.4% with all four cardinal symptoms (dyspnea, fatigue, palpitations, and edema).

The high prevalence of CHF symptoms in the Andijan population suggests the need for improved prevention strategies, earlier diagnosis, and more effective management of cardiovascular risk factors in this region.

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