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Clinical picture of a patient with chronic heart failure

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Abstract: The thesis explores clinical and demographic aspects of chronic heart failure (CHF) patients from Almaty's City Cardiology Center, aiming to depict their profile and assess therapy adherence. Predominantly male (70.2%), aged 50-69 (42.1%), and of Kazakh ethnicity (51.7%), patients often sought emergency care (84.6%) and underwent revascularization (55.3%). With 2.3 concomitant diagnoses, prevalent functional class III, and dyslipidemia, the majority had a positive treatment outcome (97.5%). This research offers crucial insights into CHF demographics, risk factors, and therapy effectiveness, aligning with abstract construction criteria for potential readers seeking CHF management information.

Keywords: clinical and demographic characteristics, chronic heart failure, coronary heart disease, clinical recommendations.

Introduction

Clinical and demographic characteristics of patients are directly related to the state of the cardiovascular system. In addition, it was found that the severity of clinical symptoms of cardiovascular insufficiency depends on the age, gender, and social status of the patient. Thus, the detection of such patterns allows us to assess the impact of these patterns on the clinical picture and prediction of the outcome of therapy. The purpose of this project is to describe the clinical picture of the CHF case and assess the compliance of therapy with modern recommendations. Demographic and clinical characteristics of patients diagnosed with CHF who are on inpatient treatment at the City Cardiology Center of Almaty were analyzed. Age, gender, functional classification of the New York Association, a history of arterial hypertension (AH), atrial fibrillation (AF), diabetes mellitus (DM), chronic kidney disease (CKD), chronic obstructive pulmonary disease (COPD), digestive diseases and anemia were considered. Data on concomitant diseases, ejection fraction (EF), glomerular filtration rate (GFR), brain natriuretic peptide (NT-proBNP) and highly sensitive troponin (HpTp) were also collected. Medication intake cards were compiled indicating the labeling of international nonproprietary names and daily doses.

Research Results

Men predominate among patients with chronic heart failure (n=85; 70.2%), women account for 29.8% (n=36). Among male patients, there is a predominance of age groups of 50-59 years (n=21; 24.7%) and 60-69 years (n=30; 35.3%), and among women – 60-69 years (n=12; 33.3%) and 80-89 years (n=13; 36.1%).

Table 1

Age-sex characteristics of patients with chronic heart failure of ischemic etiology (n, in % of total)

№	Age/sex	30-39	40-49	50-59	60-69	70-79	80-89	Bcero
1	Men	2,4	5,9	24,7	35,3	18,8	12,9	100
2	Women	0	0	5,6	33,3	25,0	36,1	100
3	Both	1,7	4,1	19,0	34,7	20,7	19,8	100

Source: authors' own development

The distribution of patients by nationality: Kazakhs – 51.7%, Russians - 39.7%, Uighurs - 7.2%, other nationalities - 1.4%, reflects the ethnic composition of the residents of Almaty in 2021 (Kazakhs - 61.4%, Russians - 24.312%; Uighurs - 5.42%). Myocardial revascularization by coronary bypass surgery and percutaneous intervention was 55.3% (n=67), while stem damage to the coronary bed was observed in 61.1% of cases (n=74).

In the anamnesis, the most common diseases were arterial hypertension (n=116; 95.9%), myocardial infarction (n=91; 75.2%), DM (n=46; 38.0%), atrial fibrillation (n=39; 32.2%). According to the classification of NYHA, functional class III prevailed among patients - 91% (n=110, men – 78 and women – 32), functional class II and IV occurred in 4.1% of cases (n=5); and functional class I was observed in 1 case, which was 0.8% (n=1). Analysis of therapy conducted at the inpatient stage showed that blockers

of the renin-angiotensin-aldosterone system (RAAS) (angiotensin converting enzyme inhibitors (ACE inhibitors), angiotensin receptor antagonists, sacubitril/valsartan) were received by 72.7% of patients, beta-blockers – 90.9%, antagonists of mineralocorticoid receptors (AMCR) – 58.1%, glycosides were received by 8.2%, diuretics – 53.8% of patients and statins – 75.2%. All groups of drugs were prescribed according to existing recommendations in acceptable optimal doses.

The registers show that there are significant regional differences in the characteristics of patients with CHF observed both in outpatient care and receiving inpatient treatment. Approaches in diagnosis, treatment and outcomes also have differences (Maggioni et al., 2013).

Comorbidity or polymorbidity is typical for patients with CHF. The data obtained by us have similar trends in the works of our European and Russian scientists (Chernyavskaya & Glezer, 2021; Komajda, 2003). However, there are several significant differences in the frequency of diabetes, CKD and anemia in patients with CHF, in our work the frequency was lower. Arterial hypertension occurs among our patients with a high frequency, while the average pressure level was in the acceptable range, but the heart rate does not reach the target indicator.

The frequency of echocardiography, NUP, calculation of GFR in hospitals in the city is quite high and significantly exceeds the data published in Europe.

When evaluating the prescribed therapy for CHF of ischemic genesis, attention is drawn to complete or partial non-compliance with current recommendations. The proportion of patients receiving recommended therapy is significantly lower than reported in international, European registers (Crespo-Leiro et al., 2016; van Deursen et al., 2014).

Conclusions

Clinical and demographic portrait of a patient with chronic heart failure of ischemic genesis is a man (70.2%), age group 50-69 years (42.1%), Kazakh (51.7%), a resident of the city (81.8%), a pensioner (57.8%), was admitted to the hospital by ambulance (84.6%), who was myocardial revascularization was performed for ischemic heart disease (55.3%), with an average of 2.3 concomitant diagnoses, most often having a III functional class for chronic heart failure, with increased body weight, with dyslipidemia due to an increase in low-density lipoprotein, with a reduced ejection fraction (58.7%), who received basic therapy, with a positive treatment outcome (97.5%).

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