

El Refai Taha Ziad, Al Houjairy Ali Firas
METABOLIC SYNDROME IN PATIENTS WITH CHRONIC HEART FAILURE
CLASS II, III

Tutor PhD, associate professor Patorskaya O. A.
2nd Department of Internal Diseases
Belarusian State Medical University, Minsk

Introduction. Metabolic syndrome is recognized as a risk factor for cardiovascular dysfunction, particularly contributing to heart failure. Insulin resistance, diabetes mellitus, and abnormal serum lipid levels, common features of metabolic syndrome, have been shown to adversely affect heart function, specifically increasing the risk of heart failure. Chronic heart failure is a prevalent cardiovascular condition with a significant lifetime risk of 24%, meaning approximately 1 in 4 individuals will develop heart failure during their lifetime. Treatment approaches for heart failure in individuals with metabolic syndrome are tailored to address the specific components of the syndrome, such as obesity, hyperglycemia, hypertension, and dyslipidemia. Obesity is a notable manifestation within metabolic syndrome and represents a substantial risk factor for cardiovascular disease progression, potentially culminating in heart failure. While chronic heart failure is a multifactorial condition that cannot be entirely prevented, early detection and management of related disorders like metabolic syndrome can mitigate long-term complications including renal impairment, liver dysfunction, arrhythmias, and sudden death.

Materials and Methods. Patients case histories and additional instrumental investigations were closely studied analyzed and reviewed attentively to summarize the subject of the study where a combination of specific keywords “CHF”, “MS” were used to deduce their significant correlation for the aim of study. The diagnosis of heart failure involved a comprehensive assessment of the patient's medical history and physical examination, along with various diagnostic tests including an electrocardiogram (ECG), chest X-ray, and a range of laboratory evaluations. These laboratory tests comprised a complete blood count, urinalysis, measurement of serum electrolytes, blood urea nitrogen, serum creatinine, glucose levels (including fasting glucose), a fasting lipid panel, liver function tests, iron studies, assays for B-type natriuretic peptide (BNP) or N-terminal pro-BNP (NT-proBNP), and thyroid-stimulating hormone levels. Additionally, all patients underwent echocardiography to determine the left ventricular ejection fraction. Measurements such as waist circumference, weight, height, and arterial blood pressure were taken manually during the assessment. Body Mass Index (BMI) was calculated using a BMI calculator. SPSS “statistical package for the social sciences” were used for used for calculation of statistical values.

Results and their discussion. The group of examined patients included 31 females (51.7%) and 29 males (48.3%). Their age was between 45 and 65 yr. – 14 patients (23,34%), more than 65 yr. – 46 patients (76,67%). From studied population 38 (63.3%) patients of 60 (100%) patients with chronic heart failure class II, III had positive metabolic syndrome. From them 17 (44.7%) have CHF class II and 21 (55.3%) have CHF class III. 22 patients (36.7%) from 60 (100%) have no metabolic syndrome. Percentage of patients with CHF class III is higher than percentage of patients with CHF class II from positive metabolic syndrome patients.

Conclusion. Due on the results of the study, there is association between CHF II, III and metabolic syndrome. The risk of development of higher stages of CHF increases as metabolic syndrome is present. Therefore, it is advisable to control parameters of metabolic syndrome to help in prevention of progression in classes of chronic heart failure. It is well established that metabolic syndrome is associated with an increased risk of cardiovascular morbidity and mortality.