**Isayeva A.S., Vysotskaya Ye.V., Strashnenko A.N., Bondar T.N. Factors affecting the increase of follicle-stimulating hormone in women with cardiovascular pathology**

International Heart and Vascular Disease Journal. 2014; 4: 29-35

**Summary**

A number of scientific studies have shown that elevated levels of follicle-stimulating hormone (FSH) greater than 25 IU/L act as a marker of women’s reproductive age. In this article we show the influence of cardiovascular risk factors on the likelihood of increasing the FSH above 25 IU/L. The study was conducted with 160 women with an average age of 52 years (SD 45–59). All patients had the content of sex hormones determined (FSH, prolactin, estradiol, testosterone, and progesterone) and serum aldosterone by enzyme immunoassay. Among the patients included in this study, hypertension was detected in 105 patients (65.6%); history of myocardial infarction – in 38 (23.7%); heart failure – in 101 (63.1%); smoking – in 35 (21.9%). SPSS 21, a computer program for Windows XP, was used for statistical analysis of results. To predict the likelihood of increasing the FSH to more than 25 IU/L under the influence of various parameters, the method of binary logistic regression was used. A number of factors that significantly affect the risk of increasing the FSH levels greater than 25 IU/L were identified, and the mathemati-cal method for predicting an increase in FSH more than 25 IU/L was developed. A statistically significant effect on the potential of increasing the FSH more than 25 IU/L was exerted by patient’s age; presence of hypertension and diabetes; cholesterol, estradiol, and prolactin levels, and statin therapy. The model was statistically significant; the value of Nagelkerke’s R squared was 0.704. This was appropriate for predicting the onset of reproductive ag-ing and the development of intermediate and late complications of menopause.

**Keywords**

Menopause, perimenopause, cardiovascular risk, follicle-stimulating hormone

**Arabidze G.G., Grigoryev Y.G The features of cardiovascular lesions in patients with pulmonary tuberculosis**

International Heart and Vascular Disease Journal. 2015; 8: 23-28

**Resume**

**Objective.** To study the influence of concomitant diabetes mellitus (DM) on the course of myocardial infarction with the ST segment elevation (STEMI) and hospital prognosis for patients.

**Material and methods.** The study included 83 patients with STEMI, admitted in 2014. Patients were analyzed in 2 groups: group I — pa-tients with type 2 diabetes (n = 38; average age 58,4 ± 8,1 years; male / female — 28/10); and group II — patients with normal carbohydrate metabolism (n = 45; average age 59,9 ± 7,2 years; male / female — 32/13). We studied the baseline clinical and hemodynamic laboratory parameters of patients, as well as hospital prognosis of MI.

**Results.** Comparative analysis showed that among patients with diabetes, hypertension occurred significantly more often as the background of the disease, and the middle class of acute heart failure according to the Killip classification was significantly higher at the admission time in patients of the first group. Ventricular arrhythmias of the heart: couplets, group PVCs, unstable paroxysms of ventricular tachycardia were detected in 2.5 times more frequently in patients with STEMI and DM. In addition, patients with diabetes were characterized by relatively severe dilation of the cavity of the left ventricle (LV) and the left atrium, at relatively low values of LV ejection fraction. During the period of hospital treatment in patients with STEMI and the type 2 diabetes, more cases of early post-infarction stenocardia (11 %) and of acute left ventricular aneurysm were recorded (9 %), (both p> 0.05), while the prevalence of the hospital mortality cases.

**Conclusion.** The presence of concomitant diabetes burdens the course of STEMI, manifesting by a pronounced left ventricular dysfunction, a high risk of ventricular arrhythmias and cardiac complications of acute myocardial, associated with a trend to an increase in index of hospital mortality.

**Key words**

Myocardial infarction, diabetes mellitus, hospital prognosis

**Bolotova E.V., Dudnikova A.V., Yavlyanskaya V.V The structure of risk factors of cardiovascular disease and chronic kidney disease in patients with chronic obstructive pulmonary disease**

International Heart and Vascular Disease Journal. 2016; 10: 23-28

**Objective.** To determine the frequency of risk factors of cardiovascular disease (CVD RF) and chronic kidney disease (CKD)among the patients with chronic obstructive pulmonary disease (COPD).

**Materials and methods.** We examined 300 patients of the Regional clinical hospital №2 with verified diagnosis of COPD I-IV degree of severity according to the GOLD criteria (2011). We studied the frequency of such RF of CVD and CKD: age > 45 years, male gender, arterial hypertension (AH), impaired glucose metabolism, hypercholesterolemia (level greater than 5.0 mmol/L), body mass index (BMI) > 25 kg/m2, and the frequency and intensity of smoking, glomerular filtrationrate (GFR) calculated with CKD-EPI.

**Results.** We identified the high frequency RF of CVD: 100% of patients had RF of CVD, 92,6% of patients had a combination of 3 or more FR, lowered GFR< 89 mL/min/1,73 m2 was present in 67,3% patients. 96.4% of patients had age over 45 years, 78,8% of patients were older than 65 years; smoking was detected in 92 % of patients with COPD; hypercholesterolemia - in 70,3% of cases; AG – in 65,6%; hyperglycemia – in 17,6%; BMI>25 kg/m2 - in 38% of patients with COPD. The inverse correlation between BMI and severity of COPD (r= - 0,324, p<0,05); and the positive correlationof cholesterol levels with age and severity of COPD (r=0,241 r=0,198, p<0,05) have been detected.

**Conclusion.** Patients with COPD demonstrate the summation of “traditional” RF of CVD, that is determined by COPD on the one hand and on the other – by existing renal dysfunction.

**Key words**

Chronic obstructive pulmonary disease, risk factors, cardiovascular disease, chronic kidney disease

Akhmedova E.A., Dudinskaya E.N., Mardanov B.U., Abdalkina E.N., Kanorskii S.G.

Glycemic control in diabetes mellitus: review of international studies of glucose-lowering drugs cardiological safety

International Heart and Vascular Disease Journal. 2016; 11: 7-12

**Summary**

This review article observes the data about social and medical significance and dynamic prognosis for the nextdecade. It analyzes modern glucose-lowering drugs, their mechanism of action, efficacy and side effects. Bigpart of this article is concentrated on the review of clinical studies of lipid-lowering drugs cardiological safety. It demonstrates the results of 5 major international clinical studies dedicated to investigation of cardiologicalconsequences of modern glucose-lowering drugs therapy. In general, not only efficacy but also safety of glucose-lowering drugs is important for their wide use

**Keywords**

Diabetes mellitus, cardiological safety, glucose-lowering drugs

**Trukhan D.I., Trukhan L.Yu. Relationship between periodontal and cardiovascular diseases**

International Heart and Vascular Disease Journal. 2016; 11:12-17

**Summary**

Periodontal and cardiovascular diseases share many common risk factors like metabolic syndrome, diabetes,dyslipidemia and arterial hypertension. The review discusses multifaceted relationship between periodontal andcardiovascular diseases.

The data available today demonstrate close relationship between periodontal disease and cardiovascular disease,that makes it necessary to clarify possible dental complaints obtaining medical history and inspect his oral cavityduring observation of patients with cardiovascular diseases, diabetes mellitus, metabolic syndrome, and if anyof them are found it is necessary to refer person to dentist. On the other hand, to increase the effectiveness ofperiodontal diseases treatment, it is reasonable to refer dentist’s patient to physician to clarify existing somaticpathology.

**Keywords**

Periodontal disease, cardiovascular disease, risk factors

**Zueva I. B., Krivonosov, D.S., Buch, A.V.**

**Assessment of cognitive functions using cognitive evoked potential in patients with arterial hypertension.**

International Heart and Vascular Disease Journal. 2017; 13: 9-13

**Summary**

**Objective.** To assess the possibility of cognitive dysfunction diagnosis using cognitive evoked potential in patients with arterial hypertension.

**Material and methods.** The study included 186 patients. The average age was 47.9±6.4 years. Cognitive function in all patients was evaluated using neuropsychological testing. Quantitative assessment of cognitive function was determined by themethod of cognitive evoked potential (CEP).

**Results.** Patients were divided into two groups. The first group included 92 healthy individuals. The second group consistedof 94 patients with arterial hypertension (AH). The groups were comparable with respect to age and sex. The groupof patients with hypertension was characterized with significant increase in the duration of the CEP (346.17±18.37 and 335.78±16.57 msec respectively; p<0.01) and reduced amplitude (10.4±4.3 and 16.2±5.7µV respectively; p<0.01), comparing with group of healthy persons. According to the test results, the hypertension group demonstrated decrease of memory (p<0.01) and cognitive functions in general (p<0.01).

**Conclusion.** The analysis of cognitive evoked potentials is an accurate method to complement clinical neuropsychologicalexamination in the diagnosis of cognitive disorders in middle age patients with arterial hypertension. The study ofcognitive evoked potential can be used for early diagnosis of cognitive impairment in these patients.

**Key words**

Arterial hypertension, cognitive impairment, cognitive evoked potential

**Petrova E.V., Shutov A.M.**

**Erectile dysfunction, anxiety and depressive disorders in arterial hypertension: pathogenetic communication and approaches to treatment.**

International Heart and Vascular Disease Journal. 2017; 14: 8-15

**Summary**

**Objective.** To detect the characteristics of life quality (LQ) and depression intensity in patients with arterial hypertensionreceiving maintenance hemodialysis treatment in the Udmurt Republic.

**Materials and methods**

We performed the analysis of LQ in 248 patients with chronic kidney disease (CKD), stage 5, receiving maintenancehemodialysis treatment in the Udmurt Republic. The average duration of dialysis in this patients was 5.6±5.5years. Analysis was performed using Beck’s Depression Inventory (1961) and specific questionnaire KidneyDisease Quality of Life Short Form (KDQOL-SF™), Russified by I.A. Vasilieva in 2006.

**Results.** We identified that LQ characteristics in people with AH receiving maintenance hemodyalysis were lower thanthe ones of patients with normal and low AH according with the majority of scales. mostly due to the reductionof mental component: 38.6±9.5 versus 44.4±12.6 (p<0.01) and 49.5±8.4 (p<0.001), correspondingly. Patients withAH demonstrated lower values for the majority of scales reflecting specific kidney disorders in patients with AH.Significant difference between studied group and both comparison groups was found for scales “Symptoms/prob-lems”, “Cognitive functions”, “Sexual function”. The differences in scales “Labour ability” and “Support by dialysis staff” was not found. It was detected that the patients with AH have more evident depression symptoms. We alsoidentified the correlation between depression and scales of LQ related to mental component. We did not detect theconnection of depression with LQ scales characterizing the quality of medical services and psychological supportby dialysis staff.

**Conclusion.** The results of this study demonstrate that the patients with AH receiving maintenance hemodialysis had more evi-dent depression and lowered life quality according with all scales, dominantly because of the mental component.Patients with AH, 3 stage, demonstrated low values in all scales reflecting the prominence of disease symptomsand their influence on physical component.

**Key words**

Arterial hypertension, chronic kidney disease, life quality, depression, sexual function.

**Kazakova I.A., Ievlev E.N. Investigation of life quality and depression intensity in patients with arterial hypertension receiving maintenance hemodialysis treatment.**

International Heart and Vascular Disease Journal. 2017; 14: 15-23

**Summary**

**Objective.** To detect the characteristics of life quality (LQ) and depression intensity in patients with arterial hypertensionreceiving maintenance hemodialysis treatment in the Udmurt Republic.

**Materials and methods.** We performed the analysis of LQ in 248 patients with chronic kidney disease (CKD), stage 5, receiving maintenancehemodialysis treatment in the Udmurt Republic. The average duration of dialysis in this patients was 5.6±5.5years. Analysis was performed using Beck’s Depression Inventory (1961) and specific questionnaire KidneyDisease Quality of Life Short Form (KDQOL-SF™), Russified by I.A. Vasilieva in 2006.

**Results.** We identified that LQ characteristics in people with AH receiving maintenance hemodyalysis were lower thanthe ones of patients with normal and low AH according with the majority of scales. mostly due to the reductionof mental component: 38.6±9.5 versus 44.4±12.6 (p<0.01) and 49.5±8.4 (p<0.001), correspondingly. Patients withAH demonstrated lower values for the majority of scales reflecting specific kidney disorders in patients with AH.Significant difference between studied group and both comparison groups was found for scales “Symptoms/prob-lems”, “Cognitive functions”, “Sexual function”. The differences in scales “Labour ability” and “Support by dialysis staff” was not found. It was detected that the patients with AH have more evident depression symptoms. We alsoidentified the correlation between depression and scales of LQ related to mental component. We did not detect theconnection of depression with LQ scales characterizing the quality of medical services and psychological supportby dialysis staff.

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**Key words**

Arterial hypertension, chronic kidney disease, life quality, depression, sexual function

**Solovieva A.V. Clinical and biochemical features of the metabolic syndrome in men.**

International Heart and Vascular Disease Journal. 2017; 15: 13-19.

**Objective.** To reveal clinical and biochemical particularities of the metabolic syndrome in men.

**Materials and methods.** The study included 299 men with metabolic syndrome aged from 31 to 89 years.

**Results.** We identified the presence of hypertriglyceridemia and increased quantity of low density lipids in young males, whereas carbohydrate metabolism disorders prevailed in middle-aged men. In 52% of cases metabolic syndrome was combined with overweight. The body mass index was significantly higher in men with manifestation of obesity before the age of 40 comparing to patients whose weight gain began after 40 years. Relatively early onset of arte- rial hypertension was discovered during the development of obesity at a young age. Men who developed obesity before the age of 40 years, had a higher number of metabolic syndrome components. Statistically significant in- crease in ALT and uric acid levels were revealed in men with newly diagnosed diabetes mellitus type 2, compared to those with previously diagnosed diabetes.

**Conclusion.** Сlinical and biochemical particularities of the metabolic syndrome in men with different duration of obesity de- termine the need of advanced examination of individuals developing obesity before the age of 40 years for early diagnosis of associated conditions.

**Key words**

Metabolic syndrome, carbohydrate metabolism disorders, hyperuricemia

**Mehdiyev S.Kh. Characteristics of glycaemic status and cardiovascular complications in relation to education level in patients with diabetes mellitus type 2**

International Heart and Vascular Disease Journal. 2017; 15: 26-31

**Summary**

**Objective.** To investigate the relation between education level, glycaemic status, and cardiovascular complications and their electrocardiogram (ECG) criteria in patients with diabetes mellitus type 2 (DM 2).

**Materials and methods.** This study included 523 patients with DM2. Patients underwent questioning that allowed to estimate their education level and obtain information about the presence of arterial hypertension (AH), coronary heart disease (CHD), chronic heart failure (CHF), and history of myocardial infarction (MI). Apart from it, we performed ECG registration in order to detect left ventricular hypertrophy, MI and CHD, and estimated fasting levels of glucose and glycated hemoglobin in venous blood.

**Results.** Systolic AH was more frequently present in patients with incomplete secondary education comparing with the patients with higher education, and diastolic AH was more frequent in persons with vocational education. Use of ROSE questionnaire allowed to detect angina pectoris 2.5 times more frequently comparing with routine patient’s questioning, and ECG identified signs of precedent MI 2 times more frequently than normal questioning. Patients with secondary education demonstrated significantly lower occurrence of MI history, various arrhythmias and CHF, and ECG signs of MI were more frequent in patients with secondary and vocational education, in comparison with patients with higher education (p<0.05). We identified reverse correlation between education level and glycemia in persons with secondary education comparing with the patients with higher education (76.3±2.9% and 64.8±3.7%, respectively, p<0.05). The least favorable control of disease progression was found in patients with incomplete secondary education (55.5±8.2%), and the most favorable one was demonstrated by patients with sec- ondary education (14.2±2.4%).

**Conclusion.** It is necessary to perform adequate control of disease progression and improve risk factors’ management in all patients with DM 2 independently from their education level in order to prevent cardiovascular complications.

**Key words**

Diabetes mellitus type 2, education level, glycaemic status, cardiovascular complications.

**Tonusri Nag, Cynthia Taub, Mohammad Hassan Khan, Wilbert S. Aronow.**

**Cardiovascular management in cancer patients with thrombocytopenia.**

International Heart and Vascular Disease Journal. 2018; 19: 3-13

**Abstract**

Cardiovascular disease and cancer are two of the leading causes of death worldwide. Although these disease processes are separate, they share a number of common risk factors. With millions of cancer survivors, the prevalence of coronary artery disease in cancer patients will continue to increase. Chemotherapy/radiation therapies carry a risk of cardiotoxicity and accelerated atherosclerosis. Hence, management of acute coronary syndrome (ACS) in this subset of cancer patients is challenging. There are limited established management strategies to address the management of ACS in cancer patients.

Thrombocytopenia in cancer patients presenting with ACS complicates the management of ACS requiring intervention, dual antiplatelet therapy, and stent placement. Randomized trials are lacking in these patients. The complexity of managing patient with malignancy who is concurrently suffering from ACS and thrombocytopenia requires attention to management of these patients. This review article intends to highlight the pathophysiology of cancer- related thrombocytopenia and management of these patients with coronary artery disease.

Key words

acute coronary syndrome, Cancer, Thrombocytopenia, Chemotherapy.

**Ievlev E.N., Kazakova I.A.**

**Blood pressure circadian rhythm abnormalities in patients with chronic kidney disease, stage 5.**

International Heart and Vascular Disease Journal. 2018; 19: 19-25

Objective. To detect clinical and laboratory characteristics of the course of arterial hypertension in patients with chronic kidney disease, 5 stage, receiving maintenance hemodialysis.

**Materials and methods.** This study included 248 patients on maintenance hemodialysis therapy. All patients underwent 24h blood pressure monitoring (24h-ABPM) for 23,2±0,6h in order to detect abnormalities of blood pressure (BP) circadian rhythms and their relationship with metabolic parameters. Statistical analysis was performed using StatPlus 2009 software.

Results. We found that a longer dialysis history was associated with a bigger number of patients with arterial hypotension rather than arterial hypertension (p<0,001). Daytime 24h-ABPM parameters correlated with office values of systolic BP (SBP) and diastolic BP (DBP) before hemodialysis: rSBP=0,52, p<0,01 and rDBP=0,65, p<0,01; during the procedure: rSBP=0,50, p<0,01 and rDBP=0,66, p<0,01, and after the procedure: rSBP=0,56, p<0,01 and rDBP=0,54, p<0,01. Night-peaker type of circadian rhythm was found in 34 patients (68%), whereas night levels of DBP were elevated in 22 (44%) patients. There were also patients with an insufficient decrease of nocturnal BP (non-dipper): 12 persons (24%) with corresponding SBP values and 16 (32%) with corresponding DBP values. Correlation analysis revealed the relationship between the morning SBP and DBP elevation value with urea levels (r=-0,77; p<0,001 and r=-0,87; p<0,001, respectively), potassium (r=-0,8; p<0,001 and r=-0,8; p<0,001, respectively), sodium (r=0,74; p<0,001 and r=-0,69; p<0,001, respectively), and phosphorus (r=-0,7; p<0,001 and r=-0,78; p<0,001, respectively). There was also found a correlation between post-dialysis pulse pressure and the level of parathyroid hormone (rs=0,78; p<0,001), phosphorus (r=0,63; p<0,001), and calcium (r=0,57; p<0,001).

Conclusion. Thus, long-term duration of dialysis is associated with an increase in the number of patients with arterial hypotension and a decrease in the number of patients with arterial hypertension. The majority of patients with AH had BP circadian rhythm abnormalities of non-dipper and night-peaker types. 24h-ABPM parameters correlate with electrolyte balance impairments (potassium, sodium, and phosphorus concentrations) and nitrogen metabolism (urea levels). Increased pulse pressure is associated with hypophosphatemia, hypercalcemia and elevated level of parathyroid hormone.

Keywords

Arterial hypertension, 24h blood pressure monitoring, chronic kidney disease stage 5.

**Mamedov М. N., Bondarenko I.Z., Mareev Y.V., Kanorskii S.G., Khalimov Yu.Sh., Agafonov P.V.**

**New statement on chronic heart failure in patients with diabetes mellitus of the Heart Failure Association of the European Society of Cardiology: comments of Russian experts.**

International Heart and Vascular Disease Journal. 2018; 20: 34-41

**Summary**

In 2018 the European Journal of Heart Failure published the new statement on chronic heart failure (CHF) in patients with diabetes mellitus (DM). It contained the data of major clinical trials on CHF prevalence, CHF clinical features and complications, pathophysiological aspects of myocardial dysfunction, CHF treatment in patients with DM, safety and possibility of use of hypoglycemic agents in patients with CHF and DM. The current article presents the comments of the Russian experts on principal positions of this new statement.

Key words

Chronic heart failure, diabetes mellitus, clinical features, treatment, prevention.

**T.M. Khokonova, S.Ch. Sizhazheva, M.A. Umetov, O.Ch. Gyaurgieva, F.M. Shogenova, D.M. Urusbieva, S.S. Solyanik.**

**The analysis of office and daily hemodynamics parameters and pharmacological therapy features in patients with chronic kidney disease and arterial hypertension.**

International Heart and Vascular Disease Journal. 2019; 23: 7-13

**Objective**. To study the effect of antihypertensive, lipid-lowering and metabolic therapy on office and daily hemodynamic parameters, central aortic blood pressure, vascular wall stiffness and life quality in patients with or without 1–2 grade of arterial hypertension (AH).

**Materials and methods**. We examined patients with 1–2 grade of arterial hypertension (AH) and 3 stage of CKD. Hemodynamic parameters were assessed using daily monitor of arterial pressure «BPLab». Life quality was determined using the MOS SF36 questionnaire.

**Results.** Patients with AH and CKD had the most significant changes in central hemodynamics and vascular wall stiffness.

**Conclusion.** The combination of antihypertensive therapy (losartan and diltiazem) with meldonium and rosuvastatin significantly reduced central and peripheral hemodynamics and vascular stiffness parameters. Meldonium, added to standard therapy, significantly improves patient’s life quality.

**Key words**

Arterial hypertension, chronic kidney disease, central aortic blood pressure, vascular wall stiffness, daily monitoring.

**S.Kh. Mekhdiev.**

**The association between chronic kidney disease and cardiovascular risk factors in patients with type 2 diabetes mellitus.**

International Heart and Vascular Disease Journal. 2019; 23: 13-21

**Objective.** To study the association between chronic kidney disease (CKD) and cardiovascular risk factors in patients with type 2 diabetes mellitus (T2DM).

**Materials and methods.** This clinical epidemiological study included 528 patients with T2DM aged 30–69 years. Social, demographic, behavioral risk factors and life quality were determined using «ARIC» questionnaire. We also assessed the level of glycemia, glycohemoglobin, creatinine, microalbuminuria (MA) and glomerular filtration rate (GFR).

**Results**. Increased creatinine level (p  <  0,001), high stress level (p  =  0,006), decreased GFR (p  <  0,001) were accompanied by 300 mg/gl MA. Patients with albuminuria more often had movement disorders (p  =  0,015), self-care (p  <  0,001) or everyday activity (p  <  0,001) impairment, pain or discomfort (p  =  0,001). Employment reduced the incidence of albuminuria (p  =  0.043), low and medium alcohol consumption had antiproteinuric effect (p  =  0.003), low physical activity was MA predictor (p  =  0.011). GFR decreased with age (p <0.001), patients with family history of angina pectoris more often had decreased renal function (p  =  0.031). Most patients with decreased GFR had increased body mass and obesity (p  <  0,001), most of them had medium or high stress level (p  =  0,003). Patients with GFR  <  60 ml/min had high creatininemia and MA (p  <  0,001); decreased GFR contributed to self-care impairment (p  =  0,020).

**Conclusion.** 7,9 % of patients with T2DM had GFR  <  60 ml/min, 35,7 % — ​MA. We assessed general and individual MA and decreased GFR risk factors. Systematic screening will prevent CKD development.

**Key words**

Type 2 diabetes mellitus, chronic kidney disease, microalbuminuria, risk factors

**Yavelov I.S.**

**Covid-19 and cardiovascular diseases.**

International Journal of Heart and Vascular Diseases. 2020; 8 (27): 4-13

**Abstract**

The new infectious disease caused bySARS-CoV-2 virus (COVID-19) is commonly seen in patients with cardiovascular risk factors and cardiovascular diseases (CVDs) that can affect the course of infectious process. At the same time, the virus can cause additional damage of heart and vessels, lead to cardiovascular complications and aggravate the course of CVDs. This review article presents the main findings on interaction between these pathologies as well as recommendations for the management of patients with COVID-19 and cardiovascular diseases.

**Key words**

COVID-19, cardiovascular diseases