

## International medical reviews

The study “Metabolomic profiles of chronic distress predict future cardiovascular disease risk” is dedicated to the examination of the association between metabolite profile, distress and increased risk of cardiovascular disease in women. The distress assessment was based on case-control dataset (n=558 women) in the Nurses’ Health Study (NHS).

Data were based on the biomarker levels in the blood samples that were taken from 2000 to 2002, depression-related data on questionnaires from 1992 through 2004, anxiety-related data on questionnaires in 1988 and in 2004.

Authors conclude that in the WHI-OS cohort the increase of the distress parameter by one standard deviation had the odds ratio (OR)=1.14 (95 % CI: 1.03–1.26) adjusting for known cardiovascular disease in patients with coronary artery disease.

In the PREDIMED cohort, each standard deviation increase of the distress was associated with OR=1.17 (95 % CI: 1.00–1.38), after adjusting for risk factors. Similar associations were observed in men and women.

medRxiv.org, 2022

According to the authors from the US, serious psychiatric disorders are associated with higher cardiovascular risk, even in young patients. These disorders include bipolar disorder and schizophrenia. They may significantly increase cardiovascular risk.

Researchers assumed that it is necessary to assess cardiovascular risk in patients with serious mental disorders and pay special attention to the prevention of diabetes mellitus, obesity and smoking cessation in this group of patients. This requires team work including physicians and family members.

For this analysis, the researchers assessed 579.924 patients without and 11.333 patients with serious mental illness as part of a cluster randomized trial of support and clinical decision making in primary medical care that aimed to reduce cardiovascular risk in patients with severe mental illness.

Average age of participants was 45 years. The percentage of women was 57.8 % in the serious mental illness group, and 54 % — in the group without psychiatric disorder.

<https://www.heart.org/>, 2022

The study was dedicated to the possibility of screening in elderly patients for atrial fibrillation during primary care visits similar to the assessment of arterial blood pressure, auscultation and the assessment of other vital parameters. Specialists from Mass General used single-lead devices that are connected to the tablet computer for the examination of over 35 000 men and women from 16 primary care sites associated with hospital research network.

Expert’s opinion on the effectiveness of such screening differed. The European Society of Cardiology recommended the assessment of pulse rate and ECG at rest during primary care visits for patients aged over 65 years. The National Heart Foundation of Australia and the The Cardiac Society of Australia and New Zealand had similar guidelines.

Circulation, 2022

The prospective cohort study showed the association between infertility and higher risk of chronic heart failure development, especially heart failure with preserved ejection fraction (HFpEF).

Data showed that women with infertility had higher risk of chronic heart failure development, especially HFpEF compared with heart failure with reduced ejection fraction (HFrEF).

The research group prospectively assessed postmenopausal women for the development of HF. Among 38.528 postmenopausal women, who were included into the study, 14 % reported a history of infertility. Average age was 63 years old. Over a median follow-up of 15 years, 2.373 developed heart failure. Multivariable cause-specific Cox models were used to evaluate the association of infertility with incident overall HF and HF subtypes (HFpEF, HFrEF, general HF).

Journal of the American College of Cardiology, 2022

The study from Karolinska University Hospital found that the administration of acetylsalicylic acid before aortic valve surgery reduced the incidence of ascending aortic aneurysms at the time of the surgery. The study included 1468 patients who were scheduled for open-heart surgery for ascending aortic aneurysm and/or aortic valve disease. Tricuspid aortic valve was detected in 693 patients, bicuspid valve — in 775 patients. The reduced prevalence of ascending aortic aneurysm was seen only in patients with tricuspid aortic valves. Relative risk for the ascending aortic aneurysms after aspirin prescription in patients with a tricuspid valve was 0.68. According to the authors of the study, the effect of aspirin may be associated with the inhibition of the inflammatory process associated with cyclooxygenase-2. The expression of cyclooxygenase-2 in the portion of the ascending aorta was reduced in patients who received aspirin.

JAHA, 2022

The researchers evaluated the effect of lipoprotein (a) on the development of atrial fibrillation. The analysis showed: the increase of the level of these protein by every 50 nmol/l increased the risk of atrial fibrillation by 3 %. The decrease of its level by 80 % reduced the absolute risk of atrial fibrillation development by 0.4 %, and relative risk — by 8 %. The decrease of body mass index by 2 units or decrease of blood pressure by 5 mm Hg has similar effect.

Lipoprotein (a) is an independent risk factor for the development of coronary artery disease, ischemic stroke and aortic stenosis that increases the risk of atrial fibrillation. However, the analysis showed that atherosclerotic cardiovascular diseases can explain only 39 % of lipoprotein (a) effect. The effect lipoprotein (a) did not depend on the level of low-density lipoproteins and triglycerides.

JACC journal, 2022