

CLINICAL CASE OF A PATIENT WITH ATRIAL FIBRILLATION COMPLICATED BY THROMBOEMBOLISM

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Abstract

Thromboembolic syndrome is dangerous for patients with atrial fibrillation (AF) in 8-15%. The most common source of thromboembolism in atrial fibrillation is the left atrial appendage [1]. The incidence of thrombus detection in the cavity of the left atrial appendage in AF is 15.2% in the absence of anticoagulant therapy and 1–8% in patients taking drugs of this group [1]. To date, the cause of the formation of blood clots in this localization, even against the background of anticoagulant therapy, is not reliably known.

Keywords: Coronary heart disease, atrial fibrillation, thromboembolism, antirhombin.

Introduction

Data from numerous studies indicate that although AF is rarely the direct cause of death in a patient, it can cause a number of serious complications, including thromboembolism in the vessels of the pulmonary and systemic circulation and, in particular, pulmonary thromboembolism and ischemic stroke [2]. According to the American Heart Association in 2011, AF increases the risk of stroke by 5 times among all age groups compared to the general population [3]. The course of AF and the risk of complications is significant the course of AF and the risk of complications largely depend on the background against which AF is observed (the patient's age, the presence of arterial hypertension (AH), diabetes mellitus (DM), heart failure (HF)). According to the Framingham study, when observed for 38 years, CHF was diagnosed in 20.6% of men and 26% of women with AF, in the absence of AF, heart failure was detected in 3,2 and 2,9% of patients, respectively, that is, 6–8 times less often [4].

This article describes the clinical observation of a 61-year-old patient with a persistent form of AF, who was hospitalized to determine further management tactics. At the initial stage of the examination, in which echocardiography diagnostic methods were used with laboratory data, no thrombosis was observed. Over a short period of time, despite anticoagulant therapy with oral anticoagulants, this patient was diagnosed with a thrombus in the left atrium. In addition, this article discusses changes in hemostasis in a patient with AF, which demonstrated a state of hypercoagulable plasma in this patient against the background of ongoing anticoagulant therapy and progressive thrombosis of the cardiac chambers.



Purpose of the work:

To evaluate the diagnostic features using the example of a clinical case with a coagulogram study in combination with echocardiography for a persistent form of atrial fibrillation against the background of coronary artery disease.

Materials and methods.

The study presents a clinical case of patient K., born in 1962, with a persistent form of atrial fibrillation, identified in Bukhara branch of the Republican research center for medical aid. The patient underwent an assessment of physical data, laboratory tests, where the concentration of hemostasis parameters were assessed (automatic coagulometer ACL TOP 350), echocardiographic and coronary angiography.

Results

Patient K. complained of a feeling of interruptions in the work of the heart, according to the EHRA III scale. After receiving the blood results, the antithrombin level was 68%, prothrombin time 19 seconds, fibrinogen 1,7 g/l, prothrombin index 78%, international standardization 1,22. Echocardiographic indicators: overall myocardial contractility is reduced, left atrium dilatation, mitral valve atherosclerosis, mitral valve insufficiency degree I, left ventricular end-diastolic volume (LV EDV) – 150 ml, LV end-systolic size (LV ESD) – 4 cm, LV end-diastolic size (LV ESD) – 5.5 cm, LV end-systolic volume (LV ESV) – 69 ml, ejection fraction (EF) 53%, stroke volume (SV) – 81%, left atrium (LA) - 5.3 cm, right atrium (RA) - 4.4 cm, thickness of the interventricular septum (IVS) - 1.2 cm, thickness of the posterior wall of the left ventricle (PLW) - 1.3 cm, volume of the left atria – 53 mm, right atrium (RA) – 44 mm. According to the conclusion of coronary angiography, it was revealed: the right coronary artery is patent, uneven contours, without stenoses. The posterior interventricular branch is without stenosis. The trunk of the left coronary artery is without stenosis. The anterior interventricular branch is passable. In the middle third, stenosis is 85%. The diagonal branch is passable, without stenosis. The circumflex branch is passable, the middle third stenosis is 95%. The branch of the obtuse edge is passable, without stenosis. Right type of blood supply to the myocardium and then stenting was performed. The patient was prescribed anticoagulant, dual antiplatelet therapy, and anti-ischemic therapy.

A month later, upon re-application, shortness of breath began. The study showed: aPTT - 37.7 sec, prothrombin time 14.3 sec, INR 1.44, prothrombin index 65%, fibrinogen 4.83 g/l, prothrombin time 15.8 sec, antithrombin 73%. Echocardiographic parameters (Fig. 1 and 2): LV EDR – 5.7 cm, LV ESD – 4.5 cm, LV EDV – 159 ml, LV ESD – 94 ml, EF 41%, SV – 65%, LP -6 .3 cm, RA – 4.4 cm, TMZH – 1.1 cm, LVAD – 1.1 cm, left atrium volume – 63 mm, RA – 44 mm. Diffuse decrease in overall myocardial contractility, thrombus in the area of the posterior surface of the mitral valve and in the area of the right ventricle. Dilatation of the left atrium, atherosclerosis of the mitral valve, insufficiency of the mitral and tricuspid valves of III-IV degree.





Fig. 1.

Fig. 2.

Discussion

In the group of patients with AF without myocardial infarction (MI), the issues of prescribing oral anticoagulants (OAC) are resolved more simply than in patients with a combination of AF and IM, but the frequency of prescribing OACs is insufficient, although it has been increasing over the past few years [5]. Over the past 2 decades, coronary artery disease with atrial fibrillation remains one of the most relevant health issues and serious causes in economically developed countries [6]. The influence of a number of factors has been proven, such as age, female gender, arrhythmias, heart failure, arterial hypertension, diabetes mellitus, vascular pathology and previous cerebrovascular accident [7,8]. Thus, in a retrospective analysis of 308 medical records of patients hospitalized in emergency cardiology departments of two multidisciplinary hospitals in Saratov from January 1, 2008 to December 31, 2009, the OAC prescription rate was 32.2% [9]. According to a retrospective study of 677 medical records of patients with AF treated at the University Clinical Hospital No. 1 of the First Moscow State Medical University named after I.M. Sechenov in 2011-2014. OACs were prescribed in 63.4% of cases [10]. Similar data were obtained by Yu.A. Khokhlova et al. [11] while studying pharmacotherapy of 96 patients with non-valvular AF hospitalized in 2015-2016. to the cardiology department of the Clinical Hospital No. 1 and to the emergency cardiology department No. 1 of the Clinical Emergency Hospital of Smolensk, where the frequency of OAC prescription was 64.6%. According to Pereverzeva K.G. and co-authors [12], the possible reasons for this situation that has developed around OAC are the excessive wariness of doctors regarding the risk of hemorrhagic complications, the readiness to interrupt ATT even after percutaneous coronary intervention with occurrence of minor, non-life threatening bleeding [13].

Conclusion

With the advent of specific laboratory diagnostics in modern medicine, it is possible to predict early thrombus formation, as well as the management of such patients.



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