A Clinical Case of Atrial Fibrillation with Coronary Vessel Ectasia

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ABSTRACT

Atrial fibrillation (AF) is one of the most common versions of supraventricular tachyarrhythmia that a doctor has to deal with in everyday practice [1,12]. It is believed that fibrillation is an independent risk factor for cardiovascular disease, because cardiac arrhythmia leads to a deterioration in the quality of life of patients, the possibility of thromboembolic complications, leading to sudden cardiac death. In the general population, AF in the adult population is 3% [2,13]. The prevalence of AF has now doubled compared to previous decades. The prevalence of AF varies with age, gender, and in the presence of structural heart disease [3, 4, 5].

Keywords: Ectasia, ischemic heart disease, atrial fibrillation.

Coronary artery ectasia (ECA) is rare pathology in which a segmental dilatation of a coronary artery beyond the diameter of normal adjacent segments or diameter the patient's largest coronary vessel by 1.5 times [10].

Causes of ectasia in 20-30% are congenital and acquired. The last about 50% of cases are associated with atherosclerosis of the coronary arteries, from 10 to 20% - with inflammatory diseases and connective tissue diseases [6,7,8]. Ectasia often leads to the development of angina pectoris and other forms such as myocardial infarction, arrhythmias, arterial dissection and sudden death [6]. The number of new cases of AF will be 120.000-215.000 per year [9]. Given the close relationship of AF with high morbidity and mortality, an increase in the number of people with AF will have severe medical, financial and socio-economic consequences.

Kukharchik G.A. with co-authors demonstrated personal clinical experience of a patient with ST segment elevation on the background of ectasia with successful use of angioplasty with stenting of the anterior interventricular branch of the coronary artery with aspiration of thrombotic masses with a positive effect and subsequent restoration of antegrade blood flow. [11 Кухарчик Г.А., Сорокин Л.А., Коваль И.Н., & Сараев Г.Б. (2016). Редкий случай инфаркта миокарда на фоне эктазии коронарных артерий. Российский кардиологический журнал, (8 (136)), 105-106.]

The purpose of the study: to study a patient with atrial fibrillation with ectasia of the coronary arteries.

Materials and research methods. The materials of the case history of the patient R., aged 70, who applied to the Bukhara Regional Branch of the Republican Specialized Scientific and Practical Medical Center for Therapy and Medical Rehabilitation, are presented with complaints of interruptions in the work of the heart, pain behind the sternum, which increases with physical activity, a feeling of lack of air, shortness of breath From the anamnesis of the disease, it is known that, according to the patient, he has been suffering from hypertension and coronary heart disease with

stable exertional angina for 20 years. The first episode of disruption of the rhythm in the form of atrial fibrillation was observed a year ago, stopped by medication. The maximum arterial pressure increased to 160/100 mm Hg. The patient was periodically disturbed by chest pains and headaches, but did not take pills. 4 days before admission, shortness of breath, interruptions in the work of the heart, a feeling of lack of air, and palpitations appeared. In this connection, the patient was taken by gravity to the Bukhara regional branch of the Republican Specialized Scientific and Practical Medical Center for Therapy and Medical Rehabilitation and hospitalized for diagnosis and treatment in the cardiology department.

Results and discussion: On examination: General condition is severe. Consciousness is clear. Height 1 m 68 cm, weight 87 kg, normosthenic build. Semi-orthopneic position. Breathing is independent. The skin is pale pink, skin turgor is preserved. The musculoskeletal system without deformities. There are no edemas in the lower extremities. Weakened vesicular breathing is heard in the lungs. Respiration 24 per minute, BP 140/90 mm Hg. HR 84-135 per min. Pulse 112 min. Pulse deficiency 69. Heart tones are muffled, arrhythmic. I tone at the top is weakened, II tone is strengthened. The abdomen is soft and painless. The liver and spleen are not palpated. As a result of the study, the following diagnosis was made: the main one: coronary artery disease. Stable exertional angina FC III. Hypertension stage III. Risk IV (very high). Complication: Chronic heart failure II A, FC III, according to NYHA. According to the analyzes of tables 1, 2 and 3.

Table. 1

Indicators, units of measurement	Values of indicators, obtained in the study
Hemoglobin, g/l	130
Erythrocytes, 10/l	4.1
Platelets, 9/l	190
Leukocytes, 9/l	5.9
Clotting time, sec	3′10′′- 3′55′′
Erythrocyte sedimentation rate, mm/h	18

Table. 2

Indicators, units of measurement	Values of indicators,obtained in the study
Total protein, g/l	73
Cholesterol, mmol/l	4,7
Glucose, mmol/l	4,2
Urea, mmol/l	6,8
Creatinine, μmol/l	93
Potassium, mmol/l	4,0
Sodium, mmol/l	143
Calcium, mmol/l	2,6

Table. 3

Indicators, units of measurement	Values of indicators,obtained in the study
Prothrombin time, sec	17
APTT, sec	24
Prothrombin time, sec	16
Fibrinogen, g/l 1.0,	3,5
INR	1,11
PTI, %	88

The study of echocardiography, transesophageal echocardiography and doppler echocardiography was performed on the apparatus Vivid S60 (Table 4, Fig. 1 and 2).

Table. 4

RV, mm	29	RA, mm	35
ESS, mm	33	BWLV, mm	12,0
EDS, mm	51	Aortic valve, mm	18
EDV, mm	123	Mass MLV, g	185
EVS, mm	12, 0	LA, mm	45x6 7
ESV, ml	44	PV, ml	79
SPPA, mm.Hg .	30	EF(Teicholz) LV, %	64

Doppler echocardiography

	Max speed ms/s E/A	**Regurgitation, degree CDC I, II, III, IV.**	**PG (средн) - mm. Hg.**
МК (E/A)	88	I-II ст	3,0
ТК (E/A)	64	I ст	1,6
Aortic valve	130	0-I ст	6,2
Pulmonary valve	107		4,5

Fig. 1

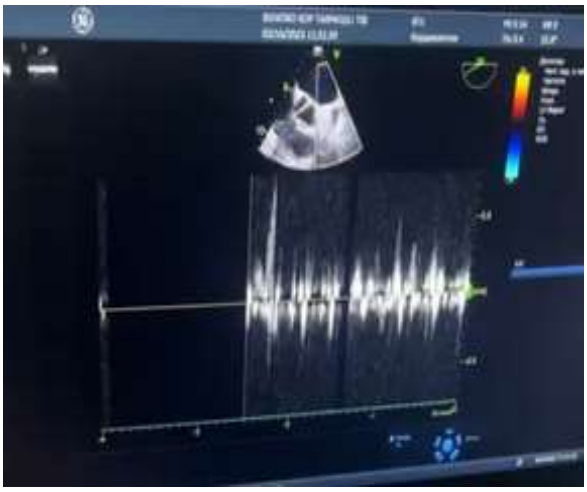

Fig.2

Conclusion: Dilatation of the LA cavity. Hypertrophy of the LV wall. Sclerosis of the cusps of the mitral and aortic valves. Mitral valve insufficiency I-II degree, tricuspid valve I degree, aortic valve 0-I degree.

Transesophageal echocardiography. Table 5

Indicators	
aLA, mm	20
Size of aLA, mm	45x67
Length of LP, mm	40
The rate of blood flow in aLA, sm/sec	40

On scanning, the left atrium and left atrial appendage are dilated (Table 5). Electrocardiogram: The rhythm is atrial fibrillation, with a frequency of ventricular contractions of 84-136 per minute, tachysystolic variant. ST segment depression V4-V6. Hypertrophy of the myocardium of the left ventricle.

According to the current recommendations for the treatment of coronary heart disease, the following correction of the received treatment with angiotensin II receptor blockers (telmisartan), β-blockers (nebilet), anticoagulants (heparin, xarelto), antiaggregants (acetylsalicylic acid), diuretic agent (semilact), for recovery water-electrolyte balance (sodium chloride, potassium chloride). Since we did not receive specific data and the date of rhythm disruption from the patient, antiarrhythmic drugs were not prescribed. Coronary angiography (CAG) was recommended.

From the results of CAG: Left coronary artery (LCA). The trunk of the LCA is passable, of medium caliber, without stenosis. Anterior pancreas of medium caliber, passable throughout, without stenosis. Circumflex artery, critical stenosis up to 95-98% in the middle third of the vascular bed. After critical stenosis, ectasia of the vessels of the middle-third of the circumflex branch.

Recommended: balloon angioplasty of critical stenosis of OA of the middle-third of the bed with balloon drug coating.

Due to the impossibility of performing invasive research methods on an outpatient basis, the diagnosis of coronary artery disease in this patient was not carried out. However, after

CAG, the patient's atrial fibrillation is of ischemic origin. Final diagnosis: coronary artery disease. Stable exertional angina III. Hypertension stage III. The risk is very high IV. Background diagnosis: Complication: Chronic heart failure II A, FC III, according to NYHA. Atrial fibrillation, persistent form. Sinus rhythm was restored medically.
Subsequently, it was recommended to continue treatment: telmisartan 80 mg/day once in the evening, nebilet 5 mg/day in the morning, cordarone 200 mg in two doses according to the scheme, acetylsalicylic acid 75 mg/day, rosuvastatin 20 mg/day, xarelto 20 mg/day in the afternoon.

Conclusion. Early diagnosis and prognosis of thromboembolic complications, as well as timely therapy, is an extremely important process and determines the life prognosis of patients.

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