offers several advantages, including reduced postoperative pain, faster recovery, and lower complication rates, making it a preferred approach for such cases. However, the case also highlights the need for further research, particularly in refining surgical techniques and establishing evidence-based guidelines for managing retroperitoneal tumors with diaphragmatic involvement.

## GENETIC POLYMORPHISM G84A IN NOS1 GENE IN PATIENTS WITH ATRIAL FIBRILLATION

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**Introduction.** The NOS1 gene is located on the long arm of chromosome 12 (12q24.22) and includes 33 exons. More than 100 polymorphisms of the NOS1 gene are known. In clinical studies exploring this polymorphism, the presence of the recessive A allele was significantly associated with the development of ischemic stroke, type 1 diabetes mellitus, post-traumatic gonarthrosis, and decreased vasodilation in myocardial infarction. To date, no clinical studies have been conducted on the relationship between the development of atrial fibrillation (AF) and the G84A polymorphism of the NOS1 gene, which explains the relevance of this study.

**Aim of the study.** To evaluate genetic polymorphisms in NOS1 gene in patients with sinus rhythm and AF.

**Materials and methods.** The study included 91 patients with coronary artery disease and/or hypertension who were admitted to the Grodno State Cardiological Center for treatment. 49 patients (53.8%) had paroxysmal or persistent form of AF, while 42 patients (46.2%) had sinus rhythm. All patients underwent clinical, laboratory, and instrumental studies, including the determination of the G84A polymorphism of the NOS1 gene using the polymerase chain reaction technique. Statistical analysis was performed using the STATISTICA 12.0 software package.

**Results and discussion.** Patients with AF and sinus rhythm were comparable in age and gender ($p>0.05$). Patients with AF had significantly higher body mass index (32.7 [29; 36] vs 29.4 [27; 31] kg/m2, $p=0.008$) and more often had obesity (51% vs 19%. $p=0.001$) than patients with sinus rhythm. Patients of both groups had no difference in prevalence of hypertension (91% vs 92%, $p>0.05$) and diabetes mellitus (8% vs 7%, $p>0.05$). It is interesting to say, that patients with sinus rhythm more often had stable angina (64% vs 26%, $p=0.002$), however myocardial infarction prevalence in both groups was comparable (15% vs 12%, $p>0.05$).

The distribution of genotype and allele frequencies for the G84A polymorphism of the NOS1 gene showed that the dominant allele G was found in 70.3% of cases and the recessive allele A was found in 29.7% of cases. The

distribution corresponded to the Hardy-Weinberg equilibrium (q=1.37, p=0.69).

When assessing the relative risk of AF development depending on the polymorphic variant of the NOS1 gene, the following results were obtained. The presence of the recessive allele A in the genotype was associated with an increased risk of AF (RR=1.92, 95% CI 1.16-3.18, p=0.03). At the same time, the presence of the G allele in the genotype reduced the risk of AF development (RR=0.77, 95% CI 0.64-0.93, p=0.008), as did the presence of the GG genotype (RR=0.64, 95% CI 0.43-0.95, p=0.01).

**Conclusion.** Patients with the recessive allele A of the G84A polymorphism of the NOS1 gene have an increased risk of AF development, which can be taken into account in the differentiated therapy of patients with cardiac arrhythmias.

## SURGICAL VIEWS ON THE TREATMENT OF CHRONIC OSTEOMYELITIS

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**Introduction.** Chronic osteomyelitis currently remains a pressing problem of modern medicine and is of great social significance, since the largest group of patients is people of working age. Regardless of the achieved treatment results, infection remains quite high. Wound suppuration is associated with changes in the invasive properties of microorganisms, disruptions in the body's immune system, and the mechanical interventions themselves during the treatment of the disease.

**Aim of the study.** To improve the results of treatment of patients with chronic osteomyelitis of tubular bones, using an autograft and platelet-enriched plasma, increasing the immune status.

**Materials and methods.** The study was conducted among 89 patients with chronic osteomyelitis (HO) of long tubular bones who were on inpatient treatment at the BUZ UR GKB No. 6 of the Ministry of Health of the Russian Federation, Izhevsk. The main group included 48 (53.9%) patients who were treated with plastic surgery of the residual bone cavity (CP) with autogenous bone tissue of the perifocal region in the form of "chips" with the addition of platelet-enriched plasma and the drug Roncoleukin was administered to them to increase their immune status.

The comparison group consisted of 41 (46.1%) patients whose treatment was carried out by other methods of plastic surgery (muscle on the proximal pedicle, combined musculoskeletal, filling with an adhesive composition). The average age of the patients was 38.9±1.9 years and 34.7±2.0 years, respectively. Both groups were dominated by men. In 50.6% of all cases, the process was localized in the femur, in 40.5% – in the tibia, in 6.7% – in the humerus, in 1.1%