

## **INTERVENTIONAL CARDIOLOGY**

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## **CARDIOVASCULAR SURGERY**

Functional State of Different Types of Shunts Depending on the Revascularization Area

*T.R. Rafaeli, A.N. Pankov, A.L. Rodionov, R.Yu. Popov, S.A. Mkrtumyan, E.E. Kovaleva, S.A. Glembo, A.V. Stepanov, O.E. Sukhorukov, A.A. Kiryaev, Z.A. Aligishieva, I.V. Isaeva*

## **MISCELLANEOUS**

Current Trends of Reperfusion Therapy in Patients with Acute Coronary Syndrome with ST-elevation

*B.A. Rudenko, A.S. Shanoyan, S.A. Boytsov*

Our First Experience with Specialized Medical Care for Acute Coronary Disease in Chelyabinsk

*K.A. Kireev, M.G. Moskvicheva, A.N. Fokin, E.V. Mikhailov, T.S. Kireeva*

Our Experience with Femoral Access for Emergency Percutaneous Coronary Interventions

*K.A. Kireev, A.A. Fokin, R.Zh. Abaydulin, T.S. Kireeva*

## **REVIEW**

Comparative Analysis of Thrombolytics' Effectiveness: the Research Continues

*A.V. Sidelnikov, I.E. Chernyshova, A.G. Koledinsky*

# Long-Term Prognosis in STEMI Patients Based on the Time Interval Between the Onset of the Disease and the Reperfusion Procedure

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The authors present the data on the long-term follow-up of STEMI patients who were treated with the use of endovascular coronary revascularization at different time points following the onset of the disease. The total number of study patients was 780. Five hundred eighty (580) patients who underwent the invasive procedure, entered the main study arm. They were subdivided into 4 subgroups in accordance with the time of surgery. The control arm included 200 patients who were not treated with the use of endovascular coronary revascularization due to various causes. The patients' status was assessed via the annual clinical and instrumental examination, monitoring of the complications and mortality level. The results obtained confirmed the superiority of the endovascular treatment in comparison with the non-invasive management. The best effect of the procedure was observed within the first 6 hours after the onset of the disease. Moreover, it was established that for the patients who are admitted at later terms and have no acute indications for the procedure, the intervention should be postponed by 4 to 6 days and carried out after the complete clinical examination of the patient.

**Key words:** STEMI, endovascular coronary revascularization, long-term.

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# Successful Simultaneous Combined Endovascular Treatment of Left Internal Carotid Artery Stenosis and Left Superficial Femoral Artery Occlusion: a Clinical Case

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According to several multicenter trials, surgical or endovascular correction is the most widely used and optimal method of management of atherosclerotic vascular lesions. However the problems of the sequence, the tactics and the volume of revascularization in such patients remain unsolved. It is especially true for the situations when it is necessary to make a choice between surgical and endovascular intervention. The presented clinical case of successful simultaneous endovascular correction of the stenotic atherosclerosis of the carotid and the superficial femoral arteries is an example of a balanced approach to the selection of the tactics of intervention in such patients.

**Key words:** stenting of the carotid artery, stenting of the femoral artery.

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# **Endovascular Embolization of the Artery Supplying Juvenile Angiofibroma with a Vascular Occluder, and its Impact on the Amount of Operative Blood Loss during Endoscopic Resection of the Tumor**

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Endovascular techniques play an important role in diagnosis and treatment of patients with juvenile angiofibroma. CT and MRI/MSCT make it possible to perform non-invasive diagnosis of the tumor. However, carotid angiography is important to determine the exact tumor's localization, assess the type of its vascularization and also perform preoperative embolization of the artery supplying the tumor. Clinical case described in this article demonstrates the value of endovascular embolization in combined treatment of juvenile angiofibroma.

**Key words:** angiofibroma, endovascular closure, occluder, Plug, artery.

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## Functional State of Different Types of Shunts Depending on the Revascularization Area

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The function of 649 direct mammary and 505 venous shunts from 6 months to 9.5 years after surgery (mean  $60.8 \pm 47.5$  months) in 421 patients was investigated. The obtained results indicate that revascularization of the left ventricular anterior wall using IMA provides reliable and long-term functionality (91%) specific to this vessel. When the left ventricular anterior lateral wall arteries are revascularized there is no significant difference in functional status between IMA and GSV (78.1% and 84.6%, respectively). When RCA is bypassed, the internal mammary artery should be avoided to be used in favor of venous conduits.

**Key words:** myocardial revascularization, long-term results, functional status of shunts (mammary, venous), revascularization area.

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# Current Trends of Reperfusion Therapy in Patients with Acute Coronary Syndrome with ST-elevation

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Based on the myocardial infarction national registry data over the period 2010–2012, the volume and structure of emergency medical care provided to the patients with ST-elevation acute coronary syndrome were analyzed. Proportions of emergency endovascular interventions out of the total number of ACS patients with ST-elevation were 22.3%, 22.1%, and 28.5% in 2010, 2011, and 2012, respectively. Thrombolytic therapy was performed in 27.6%, 30.2%, and 30.3% of cases in 2010, 2011, and 2012, respectively. Proportions of patients without any reperfusion were 50%, 46%, and 42% in 2010, 2011, and 2012, respectively. Meanwhile, percentage of patients admitted to the hospital within 12 hours after the pain onset but received no revascularization was 25.7%, 19.3%, and 16.9% in 2010, 2011, and 2012, respectively. In-hospital mortality rates related to ACS with ST-elevation were 7.7%, 7.0%, and 6.8% in 2010, 2011, and 2012, respectively.

Reduction in the in-hospital mortality rate related to myocardial infarction is caused by both the widespread introduction of high-technology medical care and increasing use of the most accessible reperfusion method (thrombolytic therapy) within the “therapeutic window”.

**Key words:** myocardial infarction, acute coronary syndrome with ST-elevation, endovascular intervention, thrombolytic therapy.

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# Our First Experience with Specialized Medical Care for Acute Coronary Disease in Chelyabinsk

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In recent years, the number of percutaneous coronary interventions including those performed for acute coronary syndrome has increased in our country. In each region, the emergency endovascular coronary interventions are introduced on individual basis at different times given financial provision and opportunities of cardiological and endovascular services, as well as emergency medical care. This article presents the first results from one of the Chelyabinsk regional vascular centers, which was the first in the region to start working in this direction.

**Key words:** percutaneous coronary intervention, acute coronary syndrome, acute myocardial infarction, regional vascular center.

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# Our Experience with Femoral Access for Emergency Percutaneous Coronary Interventions

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The number of coronary interventions in general and in acute coronary syndrome in particular is annually increasing in the Russian Federation. In settings of intensive practical activities, complications are inevitably observed, among which there is a special group related to arterial puncture. A specific complication of femoral arterial access which remains the “classical” one in X-ray surgery is the formation of false post-puncture aneurysms. This problem is very topical for emergency PCI-centers, where anticoagulants from various pharmacological groups are used particularly aggressively. To eliminate this complication, radial access can be used. Our clinic adheres to conservative opinions and offers its experience of “upgrading” femoral access in the settings of extensive flow of emergency cardiology patients.

**Key words:** percutaneous coronary interventions, acute coronary syndrome, pulsatile hematoma, false aneurysm, closure device.

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## Comparative Analysis of Thrombolytics' Effectiveness: the Research Continues

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