EVALUATION OF THE EFFECTIVENESS OF THROMBOLYTIC THERAPY IN MYOCARDIAL INFARCTION IN THE CONDITIONS OF THE SAMARKAND BRANCH OF RSCEMC

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Annotation

The effectiveness of TLT depends on the thrombolytic drug used, which in its main characteristics should be, first of all, safe, with the absence or maximum low risk of hemorrhagic complications, including - intracranial bleeding, the absence of side and allergic reactions, effective with verified coronary reperfusion in the highest percentage of cases, convenient in the application of pain-injected, which contributes to the early onset of repertures of the myocard, and of course, economically available to the population.

Keywords:

Cardiology, acute coronary syndrome, myocardial infarction, ischemic stroke, thrombosis, hemoderucia, thrombolytic therapy, coronary angioplasty, stenting, hemorrhage.

Introduction:

According to modern clinical recommendations the preferred method of myocardial reperfusion in patients with AMI is the primary PPI, provided it is possible to perform it within 120 minutes of the first medical contact (FMC) within the first 12 hours of the disease.

In the absence of such an opportunity, it is necessary to carry out as early as possible thrombolytic therapy (TLT) with the subsequent transport of the patient to the hospital with the possibility of PCI for life-saving or delayed angioplasty, which is called pharmaco - invasive reperfusion strategy (IRS). These recommendations are based on studies and registry, which have been implemented mainly in Europe and the United States. Taking into account the peculiarities of the national organization of medical care, it is not possible to carry out primary angioplasty for most patients within 120 minutes of the first examination of the doctor at the pre-hospital stage (PIS).

Thus, the task of researching reperfusion methods in real-world clinical conditions seems relevant.

In the treatment of myocardial infarction, there are several main areas:

- cupping a pain attack;
- coronary blood flow restoration;
- unloading myocardial;

Prevention of life-threatening arrhythmias;

Treatment of complications;The optimal solution to these problems is achieved in the presence of organizational links: specialized resuscitation and intensive care and cardiac departmentThe most rapid diagnosis of myocardial infarction or at least acute coronary syndrome dictates two variants of therapeutic tactics: in patients with a persistent rise of the ST segmentit is necessary by all available methods (thrombolysis, coronary angioplasty, stenting) to restore coronary blood flow, for the rest of thrombolysis is ineffective and only fraught with complications.Restoring arterial passage, preventing further thrombosis, including microtrombos, disrupting tissue blood flow - one of the main tasks in the treatment of acute myocardial infarction.At the same time, although the processes of hypercoagulation may be common, the focus is naturally on coronary circulation.The possibility of spontaneous thrombolysis can be considered proven.

However, for many patients, the restoration of coronary blood flow is possible only with the help of special measures.In addition, the spontaneous lysis obturating coronary artery clot can occur at a relatively late time.In the dissolution of the fibrin clot, plasmin plays a major role.In the blood plasma in a significant amount contains its inactive precursor plasminogen.Endothelium of vessels constantly secretes into the vascular channel a powerful factor - tissue activator plasminogen, which in turn is neutralized by a specific inhibitor of the activator plasminogen.Plasmin, which is formed in the blood, is inactivated by another specific inhibitor - a2-antiplasmin. This whole system is in constant equilibrium.

If the activity of inhibitors decreases and thus increases the formation of plasmin in the blood and slows down its neutralization, plasmin can have a fibrinolitic effect.

Spontaneous thrombolysis with coronary artery renalization may occur too late when cardiomyocytes are already fatal.At the same time, even early - spontaneous or induced - renacization is not necessarily accompanied by the restoration of blood flow and nutrition of cardiomyocytes.The cause of this may be swelling of cardiomyocytes with stagnation in capillaries and microcirculation disorders, as well as "reperfusion hemorrhage" due to necrosis elements of the vascular wall and blood leakage.Experimental and clinical studies have shown that in the first hours after myocardial infarction, effective thrombolytic therapy significantly limits the size of myocardial necrosis, with the greater the effect of treatment.Thrombolytic therapy can be carried out with the help of systemic (intravenous administration) and intra-coronary administration of drugs.Creating a high concentration of thrombolytic directly in the coronary bed should increase the likelihood of recovery of the artery passage and reduce the number of complications.However, the use of both methods in comparable groups of patients showed that the frequency of successful thrombolysis varies

not so much and depends mainly on the time elapsed from the onset of pain to the onset of thrombolytic therapy, and compliance with the methodical requirements regarding doses of drugs and control of their effectiveness.It should be noted that the decrease in mortality occurs in groups of patients with the rise of the ST segment or with a fresh blockage of the leg of thebeam of Gis, in the same place where myocardial infarction occurs with ST segment depression,   the effectiveness of thrombolytics is not proven (this does not include patients who in the first hours of the attack the depression segment ST gave way to its rise).However, the question of the period from the onset of myocardial infarction, during which it is possible to get the effect of thrombolytic therapy, is not fully understood. In some cases, the patient is unable to specify the time of the onset of an anginosis attack, especially when there is a series of attacks of varying duration.The rate of coronary blood flow recovery even with thrombolysis within 12-24 hours of the onset of myocardial infarction can reach 50%. In addition, even later restoration of blood flow improves the repair of the myocardium and prevents its post infarct remodeling. It seems that more distant results of "late" thrombolysis are needed, but it seems appropriate to introduce thrombolytic in recurrent anginous attacks and the persistence of elevation of ST; O,1 - 0.2 mV in less than two leads, even if the pain attack began 12-24 hours before the expected introduction of thrombolytic.

In the presence of non-comquencing symptoms of acute left ventricular insufficiency (cardiogenic shock and/or pulmonary edema), continued ST elerationand the inability to perform an emergency balloon angioplasty is also shown to introduce thrombolytic after 12-24 hours from the onset of anoffensic attack, as thrombolysis in this case is the only real attempt to improve the prognosis and prevent death.

Main part:

To study the hospital results of pharmaco-invasive therapy in the treatment of patients with acute myocardial infarction with ST rise   in the conditions of Samarkand EMC. Planned to conduct clinical trials of 100 patients with AMI, ST rise laboratory blood test. Instrumental method of ECG research, ECHOG, dopplerography. Indications to the use of thrombolytics in patients with coronary heart disease are the developing myocardial infarction with the rise of the St segment over 0.1 mV in at least two withdrawals, as well as with the fresh blockage of the left leg beam of Gis and with a long-term age from the beginning of the attack no more than 12 hours, protracted and recurrent course of myocardial infarction, thromboembolic complications in the large and small circle of blood circulation.The feasibility of introducing thrombolytics was discussed at a later date to improve the condition or even to save the relatively long-lasting perinecrotic zone of the alchemized myocardial. Absolute and relative contraindications to thrombolytic therapy are singled out.Relative contraception (special caution is needed):BP over 180/110 mm Hg. Art. by the time of the expected onset of thrombolytic cerebro vascular disorders or intracranial pathology, not related to absolute contraception treated with anticoagulants at an internationally normalized rate,   2-3;hemorrhagic diathesis, injuries in the last 2-4 days, including traumatic or prolonged (more than 10 minutes) cardiopulmonary resuscitation major surgical interventions in the last 3 years; puncture vessels that are not compressed recent (2-4 week) internal bleeding; Pregnancy; Open pep ulcer; long-term severe arterial hypertension in history. It is not recommended to introduce streptokinase when it has been used by thrombolysis in the past - especially in terms of up to two years, but perhaps in a much longer time; because the first injection resulted in the production of antibodies and re-injection can cause severe allergic reactions. There are several schemes of introduction of streptokinase in the acute period of myocardial infarction. Injection schemes vary by "aggressiveness", and the choice of a particular scheme is determined mainly by the presence or absence of symptoms of heart

failure caused by systolic dysfunction of myocardial. In the absence of symptoms or their mild severity, a "standard" regimen of streptokinase administration is usually used: the first dose of 500,000 ME, administered within 3-5 minutes, followed by a drip infusion of 1 million ME for 60 minutes. If there are symptoms of cardiogenic shock and/or pulmonary edema, more aggressive regimens may be used:- a 500,000-per-cent dose of 500,000 ME followed by drip infusion of 1 million ME for 30 minutes;- the bold introduction of 1 million 500 thousand ME for 10 minutes;- the bold introduction of 1 million 500 thousand ME with the subsequent drip infusion of 1 million 500 thousand ME for 30-60 minutes;- the introduction of 3 million ME in 10 minutes. The last three circuits can potentially be dangerously high risk of bleeding, so should be used only in patients with cardiogenic shock or resistant to standard therapy pulmonary edema in the inability to perform emergency coronary angioplasty. Our relatively small experience shows that such schemes allow in some cases to prevent death in patients with cardiogenic shock, with the frequency of hemorrhagic complications no greater than in the "standard" regimen of administration. High thrombolytic activity has a tissue activator plasminogen (t-AP), produced under the names of alteplase, Initially, the standard injection scheme included intravenous administration of 6-10 mg of t-AP (bolus) followed by drip injection of 50-54 mg (total 60 mg per 1 hour) and further introduction of 40 mg for 2 hours

The European Society of Cardiology recommended an accelerated introduction of t-AP: 15 mg of pain, then at a dose of 0.75 mg/kg for 30 minutes and then 0.5 mg/kg for at least 60 minutes (with a total dose also no more than 100 mg).

When prescribing t-AP, intravenous administration of heparin is recommended for 48 hours, as V.I. Metelica (1996) pointed out, that the sodium salt of heparin is not compatible with t-AP.In connection with the risk of retrombosis after the end of the introduction of thrombolytic recommended intravenous infusion of heparin at a dose of 700-1200 ED/h under the control of activated partial thromboplastic time (ACTV), which should be 1.5-2 times more than normal values.

In a stable clinical condition of the patient in 2-3 days transferred to subcutaneous administration 12 thousand-30 thousand ED heparin per day (usually in 4 receptions) under the control of ACTV, followed by a gradual reduction of the dose within 3-5 days with subsequent cancellation.

In addition, it is possible to use low-molecular heparins, in particular fraxipiparin on 15 thousand ED in two receptions.

These drugs are no less effective than intravenous standard heparin, less likely to cause bleeding and do not require laboratory monitoring.

Signs of coronary blood flow recovery and markers of effective thrombolysis are: disappearance or significant weakening of pain syndrome, stabilization of hemodynamics in cardiogenic shock, increase or appearance of more complex forms of ventricular arrhythmia, as well as accelerated node rhythm.

There are also ECG methods for evaluating the effectiveness of thrombolytic therapy. A fairly simple and reliable assessment is the dynamics of the ST segmenton the ECG, which are recorded before and 3 hours after the introduction of thrombolytic. In this case, ST changes are evaluated either in one of the withdrawals with the highest eleration, or changes in total elevation in all areas where it exceeds 0.1 mV. If ST elerationin one withdrawal or total ST elevation decreases after 3 hours from the beginning of thrombolytic administration by more than 50%, it indicates the restoration of coronary blood flow in the infarction of the infarction. At the same time, the erosion of enzymes and myoglobin from dying cells is accelerated with a rapid increase in their concentration in the blood.

When performing thrombolysis, it is necessary to prescribe disagregants as early as possible - aspirin 125-325 mg/day. And or 300 mg of clopigrel which should be used for a long time (at least 1 year).

Results and Discussions:

Been in thrombolysis since 2009. First, thrombolysis was carried out by the drug streptokinase, after the preliminary administration of glucocorticoids (prednisone-30-60mg, which increased the area of heart attack) and bockers H2-histamine receptors (quanmatel-20mg).

The analysis of the medical histories of patients with OX with the rise of the ST segment and myocardial infarction with pronged 129 was carried out. Based on ECG data to thrombolysis and after. The effectiveness of thrombolysis was assessed clinically for the treatment of angina pain and changes in the ST segment on ECG, and the appearance of reperfusion syndrome. (Reperfusion syndrome is accompanied by accelerated death of non-viable cells, in the necrosis zone can occur pockets of hemorrhagic, in some areas the blood flow is not restored due to irreversible damage to the microcirculatory link in the pool of the occlusal artery.

Reperfusion arrhythmias (virtually never leading to severe consequences) are so frequent that they can be considered as one of the markers of coronary artery reunification.), observed in 7 cases.

Successful myocardial reperfusion in almost 90% of cases is accompanied by ventricular rhythm disorders. Most often there are late ventricular extrasystoles and accelerated idio ventricular rhythm. A relatively rare complication of effective reperfusion is ventricular fibrillation, 1 case. Usually reperfusion arrhythmias do not worsen the patient's condition for a short time and do not require the use of antiarrhythmics. Magnesium sulfate may be effective to prevent reperfusion arrhythmias.

Conclusions:

The use of thrombolytic therapy in the treatment of myocardial infarction improves the prognosis of the disease. The positive effects of TLT include the preservation of a larger amount of viable myocardial and a reduction in postinfarct remodeling.

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