"JOURNAL OF SCIENCE-INNOVATIVE RESEARCH IN UZBEKISTAN" JURNALI
VOLUME 3, ISSUE 01, 2025. YANUARY
ResearchBib Impact Factor: 9.654/2024 ISSN 2992-8869

INTERVENTIONAL PRACTICE IN PATIENTS WHO UNDERWENT AORTOCORONARY SHUNTING

To'ychiyev Sh.M., Saydaliyev R.S., Allayorov S.A.
Tashkent medical academy, Tashkent, Uzbekistan

The invasiveness of coronary angiography is that a vein is punctured to insert a special thin tube, a catheter, which will be advanced toward the heart during the procedure. The doctor controls the catheter advancement using equipment. During coronary angiography, a radiopaque substance is injected, one that can absorb X-rays. Coronary angiography of the heart vessels rarely requires general anesthesia; in the vast majority of cases, local anesthesia is sufficient. The study does not require long-term hospitalization and has high diagnostic value for determining the patient's health, the method of his treatment and the volume of necessary surgical manipulations.

Key words: coronary angiography, ischemic heart disease, coronary heart disease, coronary artery bypass grafting

ИНТЕРВЕНЦИОННАЯ ПРАКТИКА У БОЛЬНЫХБ ПЕРЕНЕСШИХ АОРТОКОРОНАРНОЕ ШУНТИРОВАНИЕ.

Туйчиев Ш.М., Сайдалиев Р.С., Аллаеров С.А.
Ташкентская медицинская академия, Ташкент, Узбекистан.

Инвазивность коронарографии заключается в том, что в вену прокалывается специальная тонкая трубка — катетер, который в ходе процедуры будет продвигаться по направлению к сердцу. Продвижение катетера контролируется врачом с помощью аппаратуры. Во время коронарографии вводится рентгеноконтрастное вещество, способное поглощать рентгеновские лучи. Коронарография сосудов сердца редко требует проведения общего наркоза, в подавляющем большинстве случаев достаточно местной анестезии. Исследование не требует длительной госпитализации и имеет высокую диагностическую ценность для определения состояния здоровья пациента, метода его лечения и объема необходимых хирургических манипуляций.

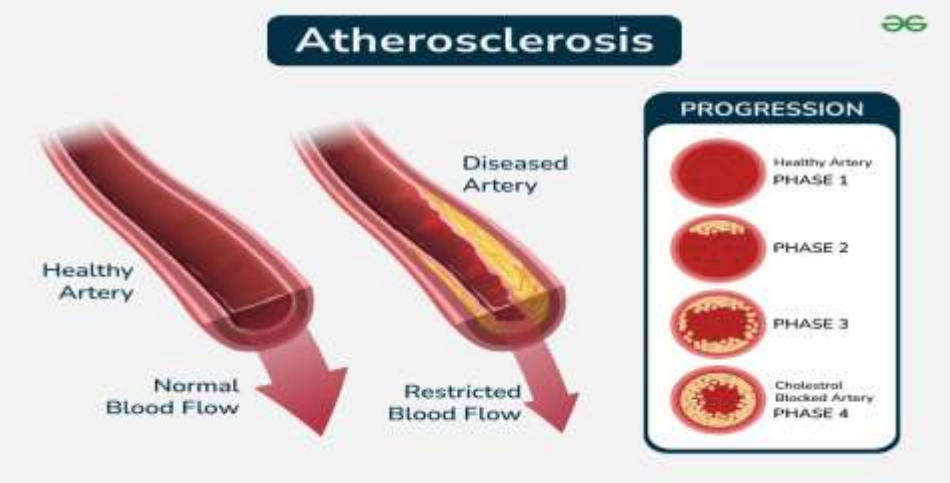
Ключевые слова: коронарография, ишемическая болезнь сердца, ишемическая болезнь сердца, аортокоронарное шунтирование.

AORTOKORONAR SHUNTLASH O`TKAZGAN BEMORLARDA INTERVENTSION AMALIYOT O'TQAZISH.

To'ychiyev Sh.M., Saydaliyev R.S., Allayorov S.A.
Toshkent tibbiyot akademiyasi, Toshkent, O`zbekiston

Koronar angiografiyaning aortokoronar shuntlash amaliyotidan farqli ravishda invazivligi shundaki, tomir ichiga maxsus yupqa naycha, kateter kiritiladi, bu jarayon davomida yurakka qarab harakatlanadi. Kateterning rivojlanishi asbob yordamida shifokor tomonidan nazorat qilinadi. Koronar angiografiya paytida rentgen nurlarini o'zlashtira oladigan modda AOK qilinadi. Yurak tomirlarining koronar angiografiyasi kamdan-kam hollarda umumiy narkoz talab qiladi, aksariyat hollarda lokal og'riqsizlantirish yetarli. Tadqiqot uzoq muddatli kasalxonaga yotqizishni talab qilmaydi va bemorning sog'lig'i holatini, davolash usulini va zarur jarrohlik muolajalar hajmini aniqlash uchun yuqori diagnostik ahamiyatga ega.

The cause of death of every second person is cardiovascular disease. The main danger is ischemic heart disease (IHD). Coronary heart disease (CHD) is a chronic disease caused by insufficient blood supply to the heart muscle. In the vast majority of cases, this is a consequence of coronary artery atherosclerosis. Coronary artery atherosclerosis is a gradual narrowing (stenosis) or complete closure (occlusion) of the coronary arteries.



At first, ischemic heart disease manifests itself during physical and emotional stress. As a rule, sharp pains occur in the center of the chest (retrosternal pain) - angina. They can be burning, squeezing, sometimes causing a feeling of lack of air. This is a signal that the heart muscle in the ischemic zone is experiencing an acute lack of blood supply. An atherosclerotic plaque narrowing the lumen can suddenly rupture, then a blood clot forms on it - a thrombus. This clot can quickly and completely block the lumen of the artery. In this case, the blood supply to the area of the heart supplied by this artery completely stops. Within 15 minutes after the blood flow stops, the heart muscle cells in the ischemic zone begin to die, and after 6-8 hours this entire zone dies completely - myocardial infarction develops.

There are two methods of surgical treatment of ischemic heart disease: coronary artery bypass grafting (CABG) and intravascular surgery (balloon angioplasty, stenting). Both methods have their indications and contraindications. Therefore, the question of choosing one of them is always decided individually.

Coronary artery bypass grafting is a cardiac surgery that creates a new path for blood flow around the affected artery. To do this, a bypass is placed between the aorta and the narrowed section of the artery. The following are used as a bypass: the great saphenous vein, the internal mammary artery, the radial artery, or a synthetic prosthesis. Access to the heart is achieved through an incision in the chest, most often through the sternum.

Types of coronary angiography differ in the scope of the study:

General. It is performed on all coronary arteries. This is a classic study, the results of which can be recorded on X-ray film, removable media or a computer disk

Selective. It is performed on several vessels. It takes little time, can be used several times to obtain images in different projections.

Depending on the method of implementation, coronary angiography of the heart can be of the following types:

Interventional. Is the most common method, involves the introduction of a catheter to fill the vessels of the heart with a radiopaque substance.

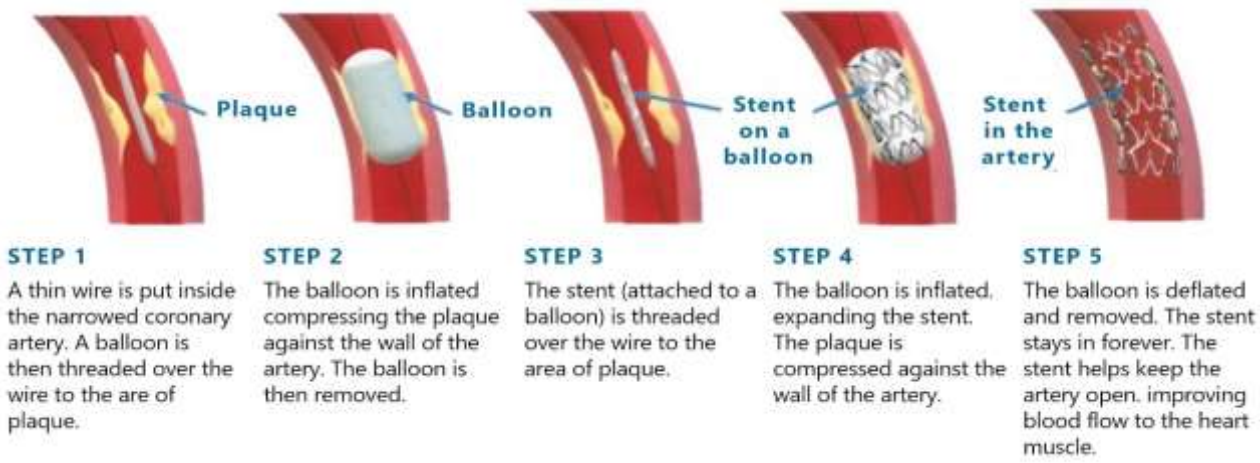
CT coronary angiography. Does not require the introduction of a catheter, since the radiopaque substance is injected into the vein.

Ultrasound. Used mainly in scientific research, the technique itself is similar to interventional coronary angiography, the difference is that the catheter is equipped with an ultrasound sensor to assess the condition of the vascular wall.

Depending on the conditions of the intervention, this may be:

- femoral artery
- brachial artery
- radial artery

Research Science and Innovation House



Then, through a special device (introducer), thin catheters are inserted one by one. With their help, a contrast agent is introduced into the lumen of the coronary arteries, making the arteries visible under X-rays. Thus, the doctor gets the opportunity to accurately detect the location of the atherosclerotic plaque, determine the degree of narrowing of the coronary vessel and develop tactics for further action. Next, a special stent is brought to the affected area via a special guide and installed, which presses down on the atherosclerotic plaque. The stent is a metal frame installed at the site of narrowing using a special tool. It strengthens the artery wall and prevents it from narrowing again .

Currently, the treatment of patients with cardiovascular diseases is becoming increasingly complex due to the general aging of the population and the prevalence of comorbidities, which forces the search for alternative methods of therapy. Hybrid revascularization strategies combine the advantages of open surgery and transcatheter interventions. The techniques available to both surgeons and cardiologists can be successfully applied in the treatment of a wide range of patients suffering from cardiovascular diseases. The results of hybrid interventions in all areas of cardiac surgery are not inferior to the results of traditional methods and deserve close attention. The future of cardiac surgery and interventional cardiology is associated with the further development of "hybrid thinking".

Hybrid surgeries are a combination of coronary artery bypass grafting (open surgery on a beating heart using a mini-access) with stenting (X-ray endovascular intervention).

Percutaneous coronary intervention (PCI) followed by minimally invasive coronary artery bypass grafting (MIDCABG)

The advantages of this approach include a reduced risk of myocardial ischemia during MIDCABG.

At the same time, traditional coronary artery bypass grafting may become an alternative in case of suboptimal PCI results. The disadvantages of this technique include the lack of angiographic control of the anastomosis between the left internal thoracic artery (LIMA) and the anterior interventricular artery (AIVA), the risk of increased blood loss during MIDCABG performed against the background of dual antiplatelet therapy, and the possibility of stent thrombosis.

Minimally invasive coronary artery bypass grafting (MIDCABG) followed by percutaneous coronary intervention (PCI)

Advantages of this approach: initiation of aggressive antiplatelet therapy after PCI performed as a second stage, myocardial protection with a functioning bypass graft to the LAD during high-risk PCI. Disadvantages include the following:

Simultaneous MIDCABG and PCI (simultaneous)

The schematic heart shows the areas of surgical intervention. The positive aspects of this strategy include simultaneous angiographic control of the anastomosis of the LVGA with the LAA and PCI of the affected coronary arteries. The negative aspects include the risk of bleeding against the background of dual antiplatelet therapy, as well as economic and logistical difficulties.

Conclution: According to the results of the research conducted on the practice of coronary artery bypass grafting despite the restoration of the patency of the coronary blood vessels, after a certain period of time, restenosis, i.e. re-clotting of the vessels for certain reasons, was observed. To date, efforts are being made to carry out interventional procedures in patients who have undergone US surgery. The main goal of this is to reduce the complications arising from the practice and to improve the patient's future quality of life by preventing the recurrence of the disease.

References

1. Mandeep Singh ,,Twenty-Five–Year Trends in In-Hospital and Long-Term Outcome After Percutaneous Coronary Intervention'' https://www.ahajournals.org/doi/10.1161/circulationaha.106.6326795

2. Unterberg C ,Buchwald A, Wiegand V ,Kreuzer H.,,Coronary angioplasty inpatients with previous coronary artery bypass grafting.'' Angiology.1992;43:653±660.

3. „Percutaneous coronary interventions in patients with prior coronary artery bypass surgery: changes in patient characteristics and outcome during two decades

4. Gade S. V. Miguel, MD, PhD,1 Alexandre G. Sousa, MD,2 Gilmara S. Silva, MSc,3 Flávia C. Colósimo, PhD,3 and Noedir A. G. Stolf, PhD4

,,Does Prior Percutaneous Coronary Intervention Influence the Outcomes of Coronary Artery Bypass Surgery?’’ 2020 Jan-Feb; 35(1): 1–8. doi: 10.21470/1678-9741-2019-0234

5. Ru Liu MD,, For patients with prior coronary artery bypass grafting and recurrent myocardial ischemia, percutaneous coronary intervention on bypass graft or native coronary artery?—A 5-year follow-up cohort study’’ : 585-587 15 June 2023 https://doi.org/10.1002/clc.24021

6. Verghese Mathew MD.,, Percutaneous coronary interventions in patients with prior coronary artery bypass surgery: changes in patient characteristics and outcome during two decades’’ The American Journal of Medicine
Volume 108, Issue 2, February 2000, Pages 127-135

7. DeepakL.Bhatt,MD,EricJ.Topol,MD,,Percutaneous Coronary Intervention for Patients with Prior Bypass Surgery :Therapy in Evolution’’ February2000 THE AMERICAN JOURNAL OF MEDICINE

Research Science and Innovation House