Gorzelak Martyna, Pierzak Monika, Chrut Aneta. Evaluation of the course of the early postoperative period after surgery endovascular abdominal aortic aneurysm elimination by biochemical tests. Journal of Education, Health and Sport. 2018;8(9):1656-1666 eISNN 2391-8306. DOI http://dx.doi.org/10.5281/zenodo.1438765
http://ojs.ukw.edu.pl/index.php/johs/article/view/6115

The journal has had 7 points in Ministry of Science and Higher Education parametric evaluation. Part b item 1223 (26/01/2017).
1223 Journal of Education, Health and Sport eissn 2391-8306 7

Received: 02.08.2018. Revised: 18.08.2018. Accepted: 15.09.2018.

Evaluation of the course of the early postoperative period after surgery endovascular abdominal aortic aneurysm elimination by biochemical tests

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Summary

Admission: Abdominal aortic aneurysm occurs in 4-9% of men and 12% of women over 65 years of age, and its rupture is the cause of 10 deaths in developed countries. Perioperative mortality in the event of a ruptured aneurysm is 20-50%, and remains unchanged regardless of

the methods of treatment, while in the surgical treatment of patients under elective with the work of J. N. Volodos and Pariodiego obtained vast improvement early results. Late results for endovascular methods are not as good, it is the subject of numerous multicenter studies. The current mortality rate of patients treated with endovascular means remains below 1%. Despite lower overall mortality continues to happen all sorts of complications such as local and general.

Objective of the work: Rating Running the early postoperative period after surgery endovascular abdominal aortic aneurysm elimination with selected biochemical indices.

Material and methods: The patient admitted in elective office in the diagnosis of abdominal aortic aneurysm endovascular purpose of supply.

Results: The course of post-operative patient in a test cannot be described as complicated. Control arteriography showed off correct an aneurysm, without leakage.

Conclusions: Postoperative care is a continuation of surgical treatment and significantly determines the scope of the safety of the patient and the risk of developing complications. Accurate and systematic observation of patients after EVAR allows immediate detection and treatment of complications occurring.

Keywords: abdominal aortic aneurysm, endovascular elimination of abdominal aortic aneurysm, early postoperative period.

Admission

Over the past 20 years, the number of abdominal aortic aneurysms has increased considerably. This is due to an aging population and the increasing prevalence of accidental detection by the various diagnostic methods [1,2]. This disease affects mostly men. It includes 3 - 9% of men and 1 - 2% of women. It is associated with the occurrence of a higher percentage of smokers among men. Smoking is one of the major risk factors for developing atherosclerosis, which increases four times the risk of abdominal aortic aneurysm. The frequency of occurrence of aneurysms is increasing with age. Abdominal aortic aneurysms account for 1 - 3% of deaths in developed countries among people between 65 and 85 years of age. Most aneurysms of the abdominal aorta has no symptoms until it ruptures. Aneurysms detected accidentally mainly during diagnostic abdominal diseases, are usually small in size and do not require immediate surgery. They can zoom in at a later time, so it is necessary constant control [3,5].

The only treatment for aneurysm is surgery. Abdominal aortic aneurysms with a diameter of more than 55 mm, are an absolute indication for surgery. Due to the nature tętnika, the operation can be carried out in emergency, urgent or elective. The basis of patient treatment is to assess the risk of rupture. Surgery abdominal aortic aneurysm involves implanting in the light of the vascular prosthesis. This treatment can be performed classic technique or endovascular. Classic method involves implanting in space retroperitoneal and vascular prosthesis. internal method is to place the stent-graft in slight aneurysm of access by peripheral vessel. Using endovascular treatments can cure the sick, which due to the high operational risk were excluded from the classical method of surgical treatment [4,5].

In the early 90s of the twentieth century, JC Parody implemented into clinical practice the first endovascular prosthesis. In the last five years there has been a rapid progress in the treatment of aortic aneurysms using endovascular techniques .. They involve the use of endovascular prostheses. Vascular endoprosthesis are commonly referred to as stent-grafts. The abdominal aorta is used in most bifurcated stent [6,7, 21]. You can be divided into multi-module and monobloc. In the first case, the various structural components are introduced successively by connecting them with each other, the second stent-graft is introduced in its entirety into the lumen of the aorta and expanded there. Implantation of the stent graft is the release of compression and decompression of it under the control of X-ray [7,8]. The procedure is usually performed with access via the femoral artery. Depending on the system used, it is necessary percutaneous puncture or exposing the contralateral femoral artery. In the case of endovascular surgery must be preserved "criteria implant." This term refers to the ratio of the aneurysm to adjacent sections of the aorta. It is determined on the basis of angio-CT and subtraction angiography. During the test is determined by the diameter of both ends of the stent-graft, the length and optionally the number of modules required to accommodate the entire winding of the aneurysm light [9,10]. It is determined on the basis of angio-CT and subtraction angiography. During the test is determined by the diameter of both ends of the stent-graft, the length and optionally the number of modules required to accommodate the entire winding of the aneurysm light [9,10]. It is determined on the basis of angio-CT and subtraction angiography. During the test is determined by the diameter of both ends of the stent-graft, the length and optionally the number of modules required to accommodate the entire winding of the aneurysm light [9,10].

It should be emphasized that the method of endovascular charged is also a high rate of complications. Mostly, these are: leakage, infection, and the expansion of the size of the

aneurysm. The most common complication after EVAR is a leak caused by ineffective except in a sack circulation aneurysm during the procedure or later. It is particularly dangerous because it can lead to further expansion of the aneurysm, and consequently the rupture [11,13]. Depending on the source of the leak can be divided into 5 basic types of leaks and their subtypes. They play an important role controls imaging performed after the operation, designed to rapidly detect and remove irregularities. Each leak causes enlargement of the diameter of the aneurysm must be removed as soon as possible. Leak Type I, which relates to the proximal or further fixing of the stent graft, can be removed by means of additional modules or extensions to enable sealing of the leak [12,14]. In the event of a leak type Ic in addition to the method of endovascular embolization can be used surgical treatment involving the iliac artery ligation access for peritoneal [15]. Leak Type II may be caused by reperfusion of the inferior mesenteric artery or iliac artery [16].

It can be removed by using the embolization material trombogennego. It is believed that the leak Type II is less dangerous than type I leak Some propose a wait when the leak is small and does not result in increasing the size of the aneurysm. In some cases involving large mesenteric artery or lumbar implantation of a stent graft may be preceded by embolization of the vessels. This helps to reduce the risk of type II leak. The cause of the leak Type III is part of the solution and the bursting of the metal frame stent graft. Leak Type III may lead to perforation and tearing of the material covering the prosthesis. Requires prompt surgical intervention because it threatens the rupture of the aneurysm [17,18]. If the method of endovascular supply is impossible to apply, should be treated with surgery involving total removal of the stent graft and implanting the vascular prosthesis [19]. Relatively rare and not dangerous complication is leakage of type IV, which may resolve spontaneously. This is an early leak occurs for 30 days after surgery and is caused by the excessive porosity of the material that covers the stent graft [20].

Other complications can be divided on local, related to the operating site, and general. Local complications, less dangerous, are directly related to the place of access to the arterial system in the groin - usually happen subcutaneous hematoma, false aneurysms of the femoral artery, and poor wound healing. General complications, if they occur, are a real threat to the life and health of the patient. Operation of endovascular abdominal aortic aneurysm usually are qualified, patients with other diseases coexist - cardiovascular, respiratory, renal function. As a result of the operation may cause deterioration in organ function, or even their complete failure, with risk of death the patient. It should be mentioned here such threats as heart attack,

exacerbation of heart failure, stroke. Because during the operation it is necessary to contrast administration.

The increasing use of the method of supplying the endovascular abdominal aortic aneurysm patients with chronic systemic illnesses contributed to the reduction of perioperative complications and mortality [18, 3].

With EVAR patients with significant burdens arising from diseases of internal medicine have the opportunity to supply the aneurysm and the risk associated with conventional surgery [5].

The aim of the study is to evaluate the course of the early postoperative period after surgery intravascular elimination of abdominal aortic aneurysm.

A case report

A 74 year-old patient admitted to the Department of Vascular Surgery goal of surgical treatment of abdominal aortic aneurysm and common iliac arteries.

Physical examination revealed:

Good general condition. Body normotypiczna. Flushed skin, properly insulated, flexible, without pathological efflorescence. The subcutaneous tissue developed properly. Muscles and skeletal system -articular correct. The peripheral lymph nodes palpation undetectable. Head shaped, symmetrical, painless percussion. Eyeballs set correctly, even the pupils round, symmetrical. Nose seated properly way. Mouth: mucosa intact blade. The back wall of the throat unchanged. Symmetrical neck, thyroid not enlarged. Chest properly arched, proper respiratory mobility. Murmur over the lung fields respiratory follicular symmetrical. Volumetric heart function. Mammary glands by palpation unchanged. Belly arched in the chest level. The study palpation belly soft painless, without pathological resistance. Peristaltic audible murmurs. Liver not enlarged. Spleen imperceptible. Symptoms of peritoneal negative. Symptom Chełmońskiego absent. Symptom Goldflamma absent on both sides. Limbs smooth, without blood circulation disorders. Neurologically without visible deviations from the norm. Meningism negative.

Comorbidities:

- Ischemic heart disease
- Hypertension
- The TBS sinus node disease

- State after implantation of a pacemaker

The CT imaging of the arteries in the abdominal aorta Found:

Aneurysm of the abdominal aorta distal part starting with 45 mm below the left renal artery bifurcation reaches the left common iliac artery. Aneurysm 88x92 cross-sectional length. 120 mm. Bag aneurysm eccentric thrombus thickness of 57 mm on the left hand circuit. Rights artery widened to 24 mm, left up to 17mm. A Orta without features of acute dissection. Aneurysm rupture without evidence of retroperitoneal and into the peritoneal cavity.

The patient after additional research and consultation after cardiac anesthesia and qualified for endovascular treatment.

The patient was performed endovascular abdominal aortic aneurysm supply by setting the graft Zenith Alpha internal iliac artery embolization. Wounds are used drainage Redon.

According to the postoperative period were taken into account the following criteria:

Laboratory tests

Type of examination	Before surgery	On the third day after surgery
WBC	8.40	12.28 K / L (4.10-10.90)
RBC	4.74	4.06 M / L (3,90-5,70)
HGB	15.3	12.6 g / dl (13,0-17,2)
HCT	46.0	37.2% (37,0-49,5)
MCV	96.9	91.6fl (80,0-97,0)
MCH	32.2	31.0pg (27,0-34,0)
MCHC	33.2	33.9 g / dl (32,0-36,0)
PLT	221.0	177.0K / ul (140,0-440,0)
Glucose	106	98mg / dl (65-100)
Urea	58	44 mg / dL (20-45)
creatinine	1.34	1.27mg / dl (0,70-1,30)
cholesterol	134	130 mg / dl (130-200)
triglycerides	107	102mg / dl (40-150)
HDL	48	50 mg / dl (35-55)
LDL	65	63 mg / dl (0-135)
CRP	5.95	237.83 mg / l (0,10-5,00)
Albumin	4.40	3.17g / dl (3,50-5,50)
procalcitonin	0.02	0.14ng / ml (0,00-0,50)
Sodium	136	141mEq / l (137-146)
Potassium	4.60	4.10mEq / l (3,50-5,20)
Prothrombin time PT	12.3	13.8 sec. (9,4-12,5)
prothrombin ratio	97	86% (70-140)
INR	1.0	1.2 (0.2-1.2)

Table 1 Source own work

RR values in the time of surgery

An important element in the care of the patient care is continuous measurement of blood pressure. The measurement is performed by means of sfignomanometru, bearing in mind that the width of the cuff apparatus must be 40% of the length of the arm. The test must be carried out at fixed intervals, e.g. Every 1-2 hours. Frequent measurement is recommended if the patient's condition is not very stable or deteriorate.

Blood pressure	Pulse
90/62 mmHg	69 ud / min
112/58 mmHg	68 ud / min
90/60 mmHg	69 ud / min
92/53 mmHg	70 ud / min
100/62 mmHg	64 ud / min
132/72 mmHg	58 ud / min
127/74 mmHg	62 ud / min

Table 2 Source own work

Card observation of surgical site

During the patient's stay in the ward operated place left without signs of infection. The drains 60 ml of secretions bloody content. In the first day after surgery drains have been removed. The patient was started.

Card feverish

Observation is also subject to the patient's body temperature. Its growth nurse always reports the doctor, as there may be a post-operative complications. The patient's body temperature is measured twice a day. In special cases, when the patient has a fever, shivering, or reports feeling hot temperature measurement is conducted even hourly.

In the first day after surgery, patient reported increase in body temperature to 39.8 degrees Celsius. In the following days after surgery was gradually declined body temperature, and sequentially 38.6 37.8 degrees Celsius on the third day after surgery. Increased body temperature, and high values of C-reactive may indicate a transitory symptoms post-implant assembly.

Pain assessment card

The symptoms reported by the patient orally and increase in blood pressure, rapid pulse and breathing frequently testify to the intensity of pain. Countering him through the systematic

administration of analgesics, according to the doctor's order, and the use of methods to prevent the accession of pain in the incision allows for better well-being of the patient [22]. Very useful in the assessment of pain intensity scales are appropriate. They give you the opportunity to evaluate the intensity of pain before any treatment and after administration of analgesics.

To assess pain in a patient uses visual-analog scale WAS, the scale of the graphic descriptive. The patient determines the degree of intensity of pain on a line 10 cm in length, including the determination 0 is no pain and 10 cm is the strongest pain that you can imagine.

Day surgery	**6/10**	**4/10**	**4/10**	**3/10**	**3/10**
And day after surgery postoperative	3/10	4/1010	2/10	2/10	2/10
Second day after surgery	1/10	1/10	1/10	0/10	0/10
The third day after surgery	**2/10**	**0/10**	**0/10**	**0/10**	**0/10**

Table 3 Source own work

The patient greatest intensity of pain occurred in the time of surgery and in the first day after surgery, which could be caused by attempts to start the patient. In the following days of post-operative pain has gradually decreased.

Discussion

Endovascular therapy is a relatively new alternative to open surgery in patients with abdominal aortic aneurysm. Its advantage is much smaller degree of invasiveness. It is believed that currently approx. 50% of patients with aortic aneurysm, positioned below the renal arteries, may be qualified for this type of treatment. However, there is still little data on the effectiveness of this method. In a study in 1998, conducted in 154 patients with abdominal aortic aneurysm, Blum et al., Demonstrated the direct effect or complete exclusion of the aneurysm from the circulation during the endovascular treatment in 87% of patients with other primary cause of its failure was the primary leakage of blood. Late complications occurred in 10% of patients.

The course of post-operative patient in a test cannot be described as complicated. Control arteriography showed off correct an aneurysm, without leakage. The patient developed

symptoms temporarily, possibly reflecting post-implant team, which is often accompanied by effective off the aneurysm after implantation of the stent graft.

Exercised professional nursing care for the sick in the postoperative period is aimed mainly at ensuring patient safety, a speedy recovery and prevention of complications and pain relief. The scope and nature of the care in the early postoperative period is determined by the effects of systematic and thorough observation of the patient, the results of the measurements and intelligence, and analysis of patient health records and the results of diagnostic tests [24].

Summary

Postoperative care is a continuation of surgical treatment and significantly determines the extent of patient safety and risk of complications [23]. Accurate and systematic observation of patients after EVAR allows immediate detection and treatment of complications occurring. This method is still being improved and gives you more ways. The ability to faster diagnosis and effective treatment of complications characteristic of this method makes use of its growing group of patients[25].

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