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USE OF ANTIBIOTICS IN HIP AND KNEE ARTHROPLASTY AND PREVENTION OF INFECTIOUS COMPLICATIONS.

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ABSTRACT

Arthroplasty is also a very traumatic procedure, and in some cases, it is characterized by significant blood loss. In the postoperative period, venous thrombosis and thromboembolism of pulmonary arteries (PETE) are the most dangerous [110; 101-106-b, 109; 1018-1025-b, 46; p. 455-461].

Based on the above, anesthesia can completely block nociceptive impulses, minimize postoperative blood loss and the need for donor blood and blood components, the development of thromboembolic complications in the postoperative period, and obvious postoperative pain. reducing the likelihood of Rick's syndrome should be consistent with the nature of this intervention. [11; p. 210-212]. Central segmental blockade methods maximally meet all these requirements [61; 810-814-b, 136; p. 193-199].

There are more different types of local anesthetic (SA, EA, joint SEA, transfer) than the methods of anesthesia used in endoprosthesis of leg joints [10; p. 16-21, 154; pp. 360-364, 108; 774-781-p], and the method of general anesthesia is used relatively little [6; p. 85-90, 157; p. 5-14].

Conventional general anesthesia, which eliminates pain perception (perception), leads to the release of neuropeptides and excitatory amino acids without interfering with nociceptive stimulation of central structures. This, in turn, leads to the development of a lack of inhibitory control, which causes the sensitivity of the dorsal branches of the spinal cord, which leads to their sustained depolarization and the emergence of postoperative pain syndrome [25; p. 5-12]. At the same time, we cannot but agree with the view that modern strong inhalation anesthetics during surgery only create the illusion of adequate anesthesia and manifest as an effect on the most proximal joint of the formation of acute pain syndrome. [27; p. 93-105].

Keywords. Total knee arthroplasty, perception, thromboembolism of pulmonary arteries (PETE)

The goal

Optimizing the use of antibiotics in hip and knee arthroplasty.

Research materials and results.

Currently, total endoprosthesis of hip and knee joints is considered the most effective method of treatment in the late stages of joint diseases. At the same time, the prevention of purulent complications in the post-surgical period is the most important task, not only following the general rules of aseptic antiseptics, but also depends on the correct choice of antibiotic prophylaxis and a complex approach. The essence of the perioperative use of antibiotics is to prevent infections caused by or directly related to the surgical procedure, but not to treat the infection. Another aspect of antibiotic use is to achieve tissue antibiotic concentrations prior to possible contamination during surgery and to maintain these levels during surgery and for the first 3-4 hours after surgery. In 2015, a group of American scientists developed a quality standard for antibiotic prophylaxis for all orthopedic surgical practices. According to it, antibiotic prophylaxis must be done in orthopedic practices related to the installation of all metal structures.

There are 4 antibiotic prophylaxis schemes in the literature:

1. 1st dose during ultra-short premedication, 2nd dose is used only for operations lasting 3 hours and more.
2. Short - during premedication and then 2-3 doses of the drug are given during the day.
3. Reduced - 1.5-2 hours before surgery and within 48 hours after surgery.
4. Long-term - 12 hours or more before the practice and several days after the practice.

The obtained results and their analysis

We used a shortened scheme of antibiotic prophylaxis. A randomized study was conducted in all patients. After a negative test, Ceftriaxone 2.0 g was administered intravenously to patients 1.5 hours before surgery. We divided patients into 2 groups: the first and second groups.

Quantitative change of leukocytes as a result of the use of antibiotics .

Patients	A/o before practice	Day 1 a/c	Day 2 a/c	Day 3 a/c	Day 4 a/c	Day 5 a/c
Main I- gr	6.08 10*9/l	11.5 10*9/l	9.03 10*9/l	7.5 10*9/l	7.2 10*9/l	7.0 10*9/l

Comparative II - gr	5.7 10*9/l	10.6 10*9/l	8.9 10*9/l	7.1 10*9/l	6.8 10*9/l	6.2 10*9/l

Practical recommendations

As can be seen from the above table, we can observe that the number of leukocytes in the general blood analysis of the patients in the comparative group is reduced compared to the main group when antibiotic prophylaxis is given to the patients. This means that intravenous injection of 2.0 g of ceftriaxone 1.5-2 hours before the operation plays an important role in preventing purulent infectious complications in patients in the early period after the operation. At the same time, the cost of ceftriaxone from the economic point of view is low and it is not difficult to find, this antibiotic can be taken as a drug of choice.

References .

1. Mauermann WJ, Shilling AM, Zuo Z. A comparison of neuraxial block versus general anesthesia for elective total hip replacement : a meta-analysis. // Anesth Analog . 2006 Oct 103(4) 1018-25. Epub 2006 Sep 27.
2. Maurer SG, Cen AL, Hibert R., Pereria GS, Di Cesare PE Comparison of the results of using spinal and general anesthesia for total hip arthroplasty. // I am J Orthop (Belle Mead NJ). 2007 July; 36(7): E101-6.
3. Zagrekov VI and dr. Vlianie method Obesbolivania neither Blood pressure pri endoprotezirovanii tazobedrennogo system // Medytsinsky almanac 2010. – No. 2 (11). - S.210-212.
4. Chakladar A., White SM Cost estimates of spinal versus general anesthesia for fractured neck of femur surgery. // Anesthesia . – 2010. Aug 65(8):810-4.
5. Pugely AJ, Martin CT, Gao Y., Mendozza -Lattes S., Callaghan JJ Differences in short-term complications between spinal and general anesthesia for primary total knee arthroplasty. // J Bone Joint Surg Am. 2013 Feb 6:95(3):193-9.
6. Matthew T. et al. al. Continuous femoral nerve block: varying local anesthetic delivery method (bolus versus basal) to minimize quadriceps motor block while maintaining sensory block. // Anesth 2011: 115(4): 774-781.
7. Ovechkin AM Review material XXVIII yejegodnogo congress ESRA (Salzburg , Austria , September 9-12 , 2009). // Regionarnaya anesthesia i Lechenie ostroy let 's go 2009. – No. III (4). - S.5-14.