INNOVATIVE PUBLICATION
Journal of Effective Learning and Sustainable Innovation
Vol.2 №3 (2024). March
innovativepublication.uz

THE USE OF BRIDGE THERAPY IN MAXILLOFACIAL SURGERY

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Abstract: The article highlights the methods of temporary transition from oral anticoagulants to parenteral heparins (bridge therapy) used in maxillofacial surgery and surgical dentistry, which allow to provide assistance to patients of various profiles receiving warfarin. The features of bridge therapy in dental practice are given.

Key words: oral anticoagulants, bridge therapy, surgical dentistry, maxillofacial surgery.

The number of patients receiving oral anticoagulants (OAC) is increasing annually worldwide. The reasons for their appointment is the presence in the patient's medical history of a disease that causes an increase in blood clotting with a high risk of arterial or venous thrombosis. Since antithrombotic therapy is often carried out for life, patients are periodically shown to undergo surgical sanitation of the oral cavity, which, without taking into account the drugs received, can lead to the development of hemorrhagic complications. The most difficult in dental practice is the provision of surgical care for inflammatory diseases of the maxillofacial region (periostitis, abscesses, phlegmon and purulent sialoadenitis), as well as for vascular damage in this area. In relation to such cases, an algorithm has been developed to assist patients receiving warfarin, which consists in a temporary transition from oral anticoagulant and/or antiplatelet therapy to parenteral heparins in order to maintain the necessary thromboprophylaxis and at the same time reduce

the risk of bleeding. This methodology is called bridge therapy. The decision on the expediency of bridge therapy is made in each individual case collectively (by a maxillofacial surgeon or a dental surgeon and a cardiologist or a surgeon or a neurologist). Bridge therapy is performed according to a complex scheme involving the phased cancellation and resumption of UAC administration. At the time of discontinuation of warfarin, both unfractionated heparins (NPH) and low molecular weight heparins (NMH) can be used, however, the patterns of use of these drugs differ. Bridge therapy in general has the following form, which, however, may differ in detail in different medical organizations.

Warfarin:

1. Cancelled 5 days before the operation.

2. INR is evaluated 1 day before surgery: a) the operation is performed if INR < 1.5; b) if INR = 1.5—1.8, you can consider administering a small dose of vitamin K1 (not registered in the Russian Federation); c) if INR > 1.8, then vitamin K1 is used (1 mg subcutaneously or 2.5 mg orally).

3. INR is evaluated on the day of surgery.

4. Taking warfarin in a maintenance dose is resumed on the day of surgery in the evening or the next morning. 5. INR is constantly monitored until the target values are reached (2.0 or more).

NFG intravenously:

1. Administration begins at least 2 days before surgery at a therapeutic dose calculated taking into account body weight (80 IU / kg intravenously bolus, followed by a maintenance dose of 18 IU / kg / h intravenously, under the control of ACTV).

2. The administration of NGF is stopped 6 hours before the operation.

3. Administration should be resumed at least 12 hours after (in the case of large interventions — for 2-3 days) surgery at a previously calculated maintenance dose, provided adequate hemostasis in the area of the surgical suture.

4. Administration is stopped when INR as a result of saturation with warfarin reaches target values (2.0 or more).

HMG subcutaneously:

1. Administration begins at least 2 days before surgery at a therapeutic dose (enoxaparin 1 mg / kg twice a day, dalteparin 100 IU / kg twice a day, bemiparin 3500 IU per day once).

2. Discontinue administration at least 24 hours before surgery (but administer the morning dose of the drug on the eve of surgery).

3. Resume the administration of NMH at a therapeutic dose after surgery after achieving proper hemostasis: within 24 hours after minor surgical interventions; within 48-72 hours after major surgical interventions.

4. Administration is stopped when INR as a result of saturation with warfarin reaches target values (2.0 or more).

5. MG is advisable to use in case of spinal anesthesia.

In surgical dental practice, bridge therapy is used quite often, successfully and differs slightly from the above algorithm. Thus, 5 approaches are proposed to minimize the risk of bleeding [1; 5; 8].

1. Cancellation of UAC without switching to heparins.

2. The abolition of UAC with the transition to intravenous administration of NG.

3. Cancellation of the UAC with the transition to NMH.

4. Reducing the dose of UAC without their complete cancellation.

5. Maintaining the intake of UAC in the same volume (without reducing the dose).

The first method is that warfarin is stopped 3 to 5 days before surgery, when the levels of INR and prothrombin index are close to normal values, the operation is performed.

This approach is used in patients with a low risk of thromboembolism with mandatory approval from the doctor treating the underlying disease and taking into account the medical history. The second approach is used in high-risk patients (artificial heart valves, ischemic stroke less than 6 months ago or a history of pulmonary embolism). These patients are hospitalized and transferred from warfarin to intravenous NPH within 3-5 days, and the administration of NPH is stopped a few hours before surgery. After the operation and the achievement of proper hemostasis, the administration of NG is resumed, and the next day a gradual transition to UAC begins. As soon as the target INR is reached, the NGF is canceled. The third option is used in patients with an average risk of thrombosis and is more convenient because NMH is administered subcutaneously and lasts longer. UAC is canceled 3-5 days before surgery with a gradual transition to NMH. The intake of UAC is resumed on the day of surgery, and the administration of NMH upon reaching the target level of INR is stopped. The fourth approach involves reducing the dose of UAC so that the INR is in the range of 2.0—2.5. After the operation, the dose of UAC is increased to the preoperative level, provided adequate hemostasis. The fifth approach does not involve changes in the dose of UAC. Surgical intervention is performed in a small volume at an INR level of 2.0—3.5 and thorough hemostasis using local hemostatic agents. Patients are monitored for 5 days to avoid bleeding. This approach is justified in patients with a very high risk of thromboembolism [2; 6; 7].

For all surgical interventions in the maxillofacial region, the active use of local hemostatic agents is prophylactically recommended (rinsing the oral cavity with tranexamic or aminocaproic acid, pressure applications with gauze swabs moistened with these acids or hemoblock, the use of sterile hemostatic collagen sponges, etc.) [4; 5; 8].

Thus, surgical sanitation of the oral cavity for patients receiving UAC can be performed in the required volume on an outpatient basis. If surgical intervention is necessary in the maxillofacial region, there are well-developed schemes for correcting the

hemostasis system in patients with a high risk of developing arterial or venous thrombosis. The use of bridge therapy in maxillofacial surgery and surgical dental practice leads to the minimization of hemorrhagic and thromboembolic complications, improving the prognosis of the outcome of the disease.

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