

The perioperative management of anticoagulants and antiplatelet agents in cervical and adrenal surgery

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Abstract

Nowadays, there is no review of the literature on current recommendations concerning the perioperative management of anticoagulants and antiplatelet agents in endocrine surgery - particularly concerning cervical and adrenal surgery. Moreover, this is true since the introduction of new oral anticoagulants.

As a consequence, the purpose of the present review tries to make an update of recommendations concerning the perioperative management of anticoagulants and antiplatelet agents in the specific context of endocrine surgery.

Introduction

Cervical surgery, thyroid or parathyroid one, has a low morbidity. One of the main risks is post-operative hematoma, which, when compressive, can lead to a very short-term life expectancy in the event of delayed diagnosis or management. In this context, the perioperative management of anticoagulants and antiplatelet agents is particularly important.

In adrenal surgery, if the occurrence of a postoperative hematoma is not usually associated with an immediate life-threatening risk, this risk may in particular be influenced by the secreting nature of the lesions, which will necessitate an adaptation of the antithrombotic prophylaxis.

Thromboembolic prophylaxis

Cervical surgery

All the studies revealed a significantly lower thromboembolic risk than hemorrhagic risk, even after surgery for cancer. There is therefore no indication of systematic post-operative medicinal thromboembolic prophylactic treatment [1]. This can be individually indicated according to particular thromboembolic and hemorrhagic risk factors [2,3]. (Level of evidence: 4). In major carcinological surgery, which may involve, for example, tracheal or esophageal resection, prophylaxis is permissible because of the duration of surgery and especially of the field [1,4].

Adrenal Surgery

By laparotomy: No specific recommendations were made for thrombo-prophylaxis in adrenal surgery. Thus, to give the indication, the search for known individual thromboembolic risk factors such as obesity, thromboembolic history, cancer, female sex, advanced age, prolonged duration of intervention, varicose veins, can help us [5]. According to the recommendations of SFAR 2005, and by analogy with open or endo-urological surgery of the upper urinary tract, adrenal surgery is considered to be a low thrombotic surgical risk and does

not require specific thrombo-prophylaxis. Whether in the absence or presence of individual thromboembolic risk factors, anti-thrombosis stockings (ATS) are recommended [1] (grade A). It is important to note that patients with Cushing's syndrome or who are operated from cancer have a higher risk of thromboembolism and therefore require systematic post-operative thromboembolic prevention for a duration of 2 weeks [6] (level of evidence: 2).

By laparoscopy: Despite its classification in the major hemorrhagic surgery group [7], most adrenal surgeries are performed by laparoscopy with minimal blood loss [8]. The recommendations are identical to laparotomy except in case of laparoscopy more than 60 minutes where the thrombotic surgical risk becomes moderate. In this last case, a pair of ATS or heparin therapy with LMWH (Low Molecular Weight Heparinotherapy) (grade D), except in case of cancer, where prolongation of prophylaxis at one month reduced paraclinical thrombosis by 50% without an increase in hemorrhagic risk (Level of evidence 1). In the presence of individual thromboembolic risk factors, LMWHs are recommended (grade D).

Perioperative management in long-term patients

- by antiplatelet agents

Cervical surgery

There is no indication of discontinuation of acetylsalicylic acid therapy that does not significantly increase hemorrhagic and

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postoperative hematoma risks, nor does transfusion risk (Level of evidence: 4).

P2Y12 receptor blockers (clopidogrel, prasugrel, ticagrelor) should be discontinued and relieved by aspirin, knowing that they are rarely given alone but most often with aspirin for patients with a coronary stent [9] (Level of evidence: 4). In the event of stoppage, the total duration of the treatment should not exceed 3 days for clopidogrel and ticagrelor, 5 days for acetylsalicylic acid and 7 days for prasugrel. In all cases, a multidisciplinary decision with the cardiologist or neurologist must be obtained. For example, aspirin is stopped 2 days before surgery and taken again 24 hours later.

In addition, a reinforced surveillance must be carried out within the 24 hours following the gesture in search of an evocative sign of postoperative hematoma [9] (Level of evidence: 4).

Systematic drainage of the surgical site does not reduce the risk of postoperative hematoma [9] (Level of evidence: 4).

Adrenal Surgery

According to HAS - ANSM 2012 guidelines [9], hemorrhagic risk in adrenal surgery is low. The discontinuation of antiplatelet agents such as acetylsalicylic acid is therefore not justified. Clopidogrel, prasugrel and ticagrelor should be stopped at a greater risk of bleeding, but should be relayed by acetylsalicylic acid. Their resumption should be considered quickly in light of the benefit-risk balance. The monitoring of the thrombotic risk, particularly coronary perioperative risk, must be established in collaboration with the anesthetic team and the physicians initiating the treatment.

- by anticoagulants

Cervical surgery

It is recommended, when possible [10,11], to stop effective anticoagulant therapy before cervicotomy. (Grade 1C). The Antivitamin K (AVK) should be stopped 5 days before the procedure, the Dabigatran, 48 hours before.

Adrenal Surgery

It is recommended, where possible [10,11] to stop effective anticoagulant therapy before adrenalectomy. (Grade 1C).

If it is possible to stop therapeutic anticoagulation by AVK without relay [11].

- The last AVK dose should be given 5 days before surgery.
- Perform INR dosage the day before the intervention for goal of INR <1.5 with vitamin K prescription, oral if necessary, with a verification of 6 hours.
- LMWH anticoagulation should be resumed cautiously within 12 to 24 h after surgery (next morning) if hemostatic control is correct, gradually increasing doses to achieve therapeutic anticoagulation between 48 th and 72 th hour.
- If it's necessary to stop therapeutic anticoagulation by AVK and perform relay by heparin [11]:
- Relay with therapeutic dose of Unfractionated heparin (UFH) should be stopped 4 to 6 hours before surgery.
- Relay with therapeutic dose of LMWH should be stopped 24 hours before surgery.

- LMWH or UFH should not be resumed at a fixed time after surgery or procedure without an examination of the risk of premature bleeding or the relevance of postoperative haemostasis.
- If the therapeutic dose relay is used in patients at high risk of postoperative bleeding, initiation should be delayed 48 to 72 hours after surgery when adequate surgical hemostasis has been achieved. If the bleeding persists beyond 72 h, the options include a low-dose heparin relay or AVK alone with no post-operative heparin relay. In other cases, the therapeutic dose heparin relay can be done 24 hours after surgery.

Outpatient surgery

Cervical surgery- The last recommendations of the French Association of Endocrine Surgery (AFCE) [12] are not in favor, without totally contraindicating it, of ambulatory surgery after cervicotomy. The need for antiplatelet therapy or effective anticoagulant therapy is clearly contraindications to ambulatory care, and is in agreement with the recommendations of the American Thyroid Association (ATA) [13] (Level of evidence: 1).

Adrenal Surgery- Nowadays, there is very little experience with ambulatory laparoscopic adrenalectomy, and there is no recommendation of learned society. In this context, the need for antiplatelet therapy or effective anticoagulant therapy seems contraindications to ambulatory care. (Level of evidence: 4).

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