



CIRUGÍA ESPAÑOLA

www.elsevier.es/cirugia



Editorial

Perioperative Management of Patients Receiving Antithrombotic Treatment: A Multidisciplinary Consensus Document[☆]



Manejo perioperatorio del paciente que recibe tratamiento antitrombótico: documento de consenso multidisciplinar

The number of patients receiving anticoagulant treatment (mainly for atrial fibrillation) has grown considerably in recent years. In Spain, approximately 800,000 patients receive this type of treatment.¹ Similarly, the use of antiplatelet drugs has increased for the secondary prevention of atherothrombotic episodes. Many of these patients with antithrombotic therapy require a surgical or endoscopic procedure on either a scheduled or urgent basis. Thus, clinicians involved in the care of these patients frequently have to decide whether to interrupt or maintain antithrombotic treatment. To do so, we must consider and try to weigh the patient's baseline risk for thrombosis (which is why this medication is prescribed), their individual hemorrhagic risk and the risk associated with the intervention or procedure to be performed.

Although there are recommendations for the perioperative management of these patients,^{2–7} in general these have not been widely implemented in routine clinical practice because they are limited to certain specialties and do not contemplate all the antithrombotic therapy modalities currently available, such as the recently introduced direct oral anticoagulants (DOAC). For these reasons, a workgroup was organized in 2016, coordinated by the Spanish Society of Cardiology. This group includes representatives from most of the scientific societies involved in the management of patients receiving antithrombotic treatment and requiring surgery or a procedure with a certain hemorrhagic risk. In response to the request made by the Spanish Society of Cardiology, the Spanish Association of Surgeons, through its Board of Directors, proposed that I become its representative in that working group.

The result of the activities of the representatives from the 23 societies involved has been reflected in a consensus

document, recently published in the *Revista Española de Cardiología* (Spanish Journal of Cardiology),⁸ whose objective is to homogenize clinical practice to whatever extent possible. To this end, they propose a series of recommendations for the perioperative management of patients receiving antithrombotic treatment. First of all, the published document analyzes the potential thromboembolic risk of the patient, which it stratifies as low, moderate and high, depending on the reason for which the anticoagulant or antiplatelet treatment was prescribed. In addition, it considers the hemorrhagic risk depending on the intervention or procedure to be performed, which is also classified as low, moderate or high risk. As an addendum, a detailed table is included that shows the potential hemorrhagic risk of different interventions depending on the specialty, as well as various anesthesiology, endoscopy, cardiology or interventional radiology procedures. As for general and digestive surgery, minor skin and subcutaneous cellular tissue surgery, non-complex wall surgery and proctology surgery are considered procedures with a low risk of hemorrhage. On the other hand, major hepatic and pancreatic surgery, complex oncological surgery, interventions for digestive hemorrhage, complex endocrine surgery and severe abdominal trauma procedures are considered high bleeding risk interventions.

Other recommendations included in the document refer to the withdrawal and reintroduction of anticoagulant and antiplatelet treatment in scheduled surgery. In this regard, there is currently controversy about the need for a bridge therapy, for example, with heparin in patients receiving vitamin K antagonists. In recent years, acenocoumarol (Sintrom[®]) is usually suspended in our setting around 5 days before a scheduled operation and substituted with a low-

[☆] Please cite this article as: Arcelus Martínez JI. Manejo perioperatorio del paciente que recibe tratamiento antitrombótico: documento de consenso multidisciplinar. *Cir Esp.* 2019;97:245–246.

molecular weight heparin. However, recent prospective studies have shown that this bridge therapy is associated with an increased risk of bleeding complications, without reducing thrombotic risk, compared to the maintenance of vitamin K antagonist treatment.⁹ As for acetylsalicylic acid (aspirin), it should be noted that a maintained low dose (100 mg daily) is recommended until surgery, except in interventions with a very high risk of hemorrhage or with a risk of serious consequences, such as in neurosurgery. In these cases, treatment could be suspended 3 days before the scheduled operation. Recommendations are also included for patients receiving other antiplatelet or dual antiplatelet therapies.

Of particular interest are the section and corresponding algorithm about the management of patients receiving anti-thrombotic treatment and requiring urgent surgery, which include recommendations for DOAC (increasingly used in our setting, especially in patients with atrial fibrillation). The indications and doses of vitamin K and blood products (plasma and prothrombin complex concentrates),^{10,11,4} as well as recently approved specific antidotes for DOAC, are also contemplated: idarucizumab for thrombin inhibitors, such as dabigatran,¹² and andexanet alfa to reverse the effect of direct factor Xa inhibitors, such as rivaroxaban and apixaban.¹³

There are plans to publish a summary of the main recommendations and algorithms in pocket guide format. The published article and supplementary material can also be downloaded from the *Revista Española de Cardiología* website (revescardiologia.org), free of charge, in both Spanish and English.⁸

In short, this document is the result of a commendable multidisciplinary effort led and coordinated by the Spanish Society of Cardiology. Undoubtedly, the information provided in this consensus document will allow Spanish surgeons to have practical action guidelines for the perioperative management of patients receiving antithrombotic treatment that it is safer and in line with scientific evidence. To this end, it would be desirable for all clinicians involved in the care of these patients – surgeons, anesthesiologists, hematologists, etc. – to jointly review these recommendations and implement them (with adaptations when necessary) in their work setting.

REFERENCES

1. Federación Española de Asociaciones de Anticoagulados. Estudio Análisis del perfil sociosanitario del paciente anticoagulado en España. Federación Española de Asociaciones de Anticoagulados; 2013. Available from: <http://www.anticoagulados.info/upload/20130619111401.pdf> [accessed 06.12.17]
2. Sierra P, Gómez-Luque A, Castillo J, Llau JV. Clinical practice guidelines for the perioperative management of antiplatelet therapy in noncardiac surgery (Sociedad Española de Anestesiología y Reanimación). *Rev Esp Anestesiol Reanim*. 2011;58:243–50.
3. Alberca F, Marín F, Rodán V, Carballo F. Manejo de los fármacos antitrombóticos asociados a los procedimientos digestivos. *Rev Esp Enferm Dig*. 2015;107:289–306.
4. Spyropoulos AC, Al-Badri A, Sherwood MW, Douketis JD. Periprocedural management of patients receiving a vitamin K antagonist or a direct oral anticoagulant requiring an elective procedure or surgery. *J Thromb Haemost*. 2016;14:875–85.
5. Doherty JU, Gluckman TJ, Hucker WJ, Januzzi JL Jr, Ortel TL, Saxonhouse SJ, et al. 2017 ACC Expert Consensus Decision Pathway for Periprocedural Management of Anticoagulation in Patients With Nonvalvular Atrial Fibrillation: A Report of the American College of Cardiology Clinical Expert Consensus Document Task Force. *J Am Coll Cardiol*. 2017;69:871–98.
6. Raval AN, Cigarroa JE, Chung MK, Diaz-Sandoval LJ, Diercks D, Piccini JP, et al. Management of patients on non-vitamin k antagonist oral anticoagulants in the acute care and periprocedural setting: a scientific statement from the American Heart Association. *Circulation*. 2017;135:e604–33.
7. Shaw JR, Woodfine JD, Douketis J, Schulman S, Carrier M. Perioperative interruption of direct oral anticoagulants in patients with atrial fibrillation: a systematic review and meta-analysis. *Res Pract Thromb Haemost*. 2018;2:282–90.
8. Vivas D, Roldán I, Ferrandis R, Marín F, Roldán V, Tello-Montoliu A, et al. Manejo perioperatorio y periprocedimiento del tratamiento antitrombótico: documento de consenso de SEC, SEDAR, SEACV, AECTCV, AEC, SECPRE, SEPD, SEGO, SEHH, SETH, SEMERGEN, SEMFYC SEMG, SEMICYUC, SEMI, SEMES, SEPAR, SENEC, SEO, SEPA, SERVEI SECOT y AEU. *Rev Esp Cardiol*. 2018;71:553–64.
9. Douketis JD, Spyropoulos AC, Kaatz S, Becker RC, Caprini JA, Dunn AS, et al. Perioperative bridging anticoagulation in patients with atrial fibrillation. *N Engl J Med*. 2015;373:823–33.
10. Goldstein JN, Refaai MA, Milling TJ, Lewis B, Goldberg-Alberts R, Hug BA, et al. Four-factor prothrombin complex concentrate versus plasma for rapid vitamin K antagonist reversal in patients needing urgent surgical or invasive interventions: a phase 3b, open-label, non-inferiority, randomised trial. *Lancet*. 2015;385:2077–87.
11. Milling TJ, Refaai MA, Sarode R, Leiws B, Mangione A, Durn BL, et al. Safety of a four-factor prothrombin complex concentrate versus plasma for vitamin K reversal: an integrated analysis of two phase IIIb clinical trials. *Acad Emerg Med*. 2016;23:466–75.
12. Pollack CV, Reilly PA, van Ryn J, Eikelboom JW, Glund S, Bernstein RA, et al. Idarucizumab for dabigatran reversal – full cohort analysis. *N Engl J Med*. 2017;377:431–44.
13. Connolly SJ, Milling TJ, Eikelboom JW, Gibson CM, Curnutte JT, Gold A, et al. Andexanet Alfa for acute major bleeding associated with factor Xa inhibitors. *N Engl J Med*. 2016;375:1131–41.

Juan Ignacio Arcelus Martínez^{ab}

^aServicio de Cirugía General y del Aparato Digestivo, Hospital Universitario Virgen de las Nieves, Granada, Spain

^bDepartamento de Cirugía, Universidad de Granada, Granada, Spain

E-mail address: jarcelus@ugr.es

2173-5077/

© 2018 AEC. Published by Elsevier España, S.L.U. All rights reserved.