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REVIEW ARTICLE

The new guides for deep venous thromboembolic event prophylaxis in elective hip and knee replacement surgery. Are we nearer or further away from a consensus?☆

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Abstract Venous thromboembolism events (VTEs) prophylaxis after elective hip or knee replacement surgery is a subject of controversy. Three sets of guidelines (National Institute for Health and Clinical Excellence (NICE), American College of Chest Physicians (ACCP) and American Academy of Orthopaedic Surgeons (AAOS)) on this topic have recently been updated.

The guidelines have points in common: prophylaxis is necessary; it is recommended to combine mechanical and pharmacological prophylaxis in patients who have suffered a previous VTE, isolated mechanical measures and low molecular weight heparins (LMWH) are effective; the new oral anticoagulants (NOAC) and fondaparinux are effective drugs. There is some consensus in recommending regional anaesthesia, in advising against echography studies in asymptomatic patients, and in the promotion of early mobilisation of the patient.

There is controversy over the most suitable pharmacological treatment and the time of starting, and the duration of this, as well as on vena cava filters (VCF), antiplatelet (AP) drugs, and VTE or bleeding risk factors.

PALABRAS CLAVE
Profilaxis;
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Artroplastia;
Cadera;
Rodilla

Las nuevas guías de profilaxis de enfermedad tromboembólica venosa en artroplastia de cadera y rodilla electivas: ¿Nos acercamos o nos alejamos del consenso?

Resumen La profilaxis de eventos tromboembólicos venosos (ETV) tras artroplastia electiva de cadera o rodilla es un tema controvertido. Recientemente tres guías clínicas sobre este tema (las guías NICE, ACCP y AAOS) han sido actualizadas.

Las guías presentan puntos en común: es necesario de hacer profilaxis; es recomendable asociar profilaxis mecánica y farmacológica en los pacientes que han sufrido un ETV previo; las medidas mecánicas aisladas son efectivas y las heparinas de bajo peso molecular,

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los nuevos anticoagulantes orales y el fondaparinux son fármacos eficaces. Hay cierto consenso en recomendar la anestesia regional, en desaconsejar estudios ecográficos en pacientes asintomáticos y en promover la movilización precoz del paciente.

Hay discrepancias sobre la terapia farmacológica más adecuada y el momento de inicio y duración de ésta, sobre los filtros de vena cava, los antiagregantes y los factores de riesgo de ETV o sangrado.

Introduction

VTEs represent a significant health problem[1] and a major concern after orthopaedic surgery.[2] Although traumatologists have a good knowledge of these complications and appropriate prophylaxis is performed in most cases,[3] VTEs are directly responsible for 1 out of every 4 deaths occurring after hip arthroplasty (HA).[4] Furthermore, the leading cause of death following HA is ischaemic events,[4] indirectly related to postoperative bleeding, which in turn is often related to pharmacological prophylaxis of VTE. Therefore, there is room for improvement in the quality of VTE prophylaxis and researchers constantly offer new alternatives for such prophylaxis.

Traumatologists find themselves in the difficult position of selecting a VTE prophylaxis protocol that balances the risk of VTE with the risk of bleeding, among a growing number of alternatives. Numerous local, national and supranational institutions have conducted reviews of available evidence which have resulted in clinical practice guidelines and recommendations that help surgeons to make the best decisions. Such guides do not always offer similar recommendations.[5]

Recently, 2 of the most popular and comprehensive guides, the one elaborated by the NICE in the United Kingdom[6] and the ACCP[7] have, significantly updated their recommendations. The AAOS has also presented an update of its guide for thromboprophylaxis after elective HA and knee arthroplasty (KA).[8] These guidelines are the result of extensive and complex studies of the available evidence regarding the efficacy and safety of VTE prophylaxis measures which, despite being based on an identical set of available publications, present notable differences.

The purpose of this work is to analyse the recommendations of these 3 guides, compare them, identify the differences between them and attempt to briefly investigate the causes of these discrepancies. This review focuses exclusively on surgical prophylaxis in elective HA and KA, since the 3 guides provide specific recommendations for this group of patients and also because there is more high-quality evidence available on these patients.

The Spanish Society of Orthopaedic Surgery and Traumatology (SECOT) has also developed a clinical guide for VTE prophylaxis through the Thromboembolism Study Group (GET). The latest version of this guide was published in 2007 and an addendum was released in 2009. This guide is not included in the comparison because, given the steady progress taking place in this field, it currently lacks necessary updates. The authors are aware that there is a clear intention by SECOT and GET to update this guide in the near future.

Table 1 shows a simple comparative summary of the recommendations from the 3 selected guides.

Methodology of the new guides for prophylaxis of venous thromboembolic events

The guide from the National Institute for Health and Clinical Excellence

The NICE guide for ''Venous thromboembolism: orthopaedic surgery'' was updated in October 2011[6] as a complement to the clinical practice guide from 2010 on ''VTE prophylaxis in hospitalised patients''.[9] The guide was elaborated by a comprehensive panel of methodologists, epidemiologists, statisticians and physicians who were supported by a supplementary panel of orthopaedic surgeons. As usual, all the authors expressed their financial conflicts of interest and withdrew from the discussion of those issues in which there could be a conflict. The literature analysis method was based on assigning a level of evidence to each study, based on the Scottish Intercollegiate Guidelines Network (SIGN) system[10] and was followed by a networked meta-analysis with Bayesian hierarchies[11] to establish recommendations.

The NICE guide does not establish priorities or levels in its final recommendations, but instead uses simple terms to express which must be the clinical practice standards with regard to the topic at hand, according to the authors. These consensus recommendations among the authors become the basis for healthcare quality assessment in the UK and are examined specifically.

The guide of the American Academy of Orthopaedic Surgeons

The AAOS guide for ''Prevention of thromboembolic disease in patients undergoing hip and knee arthroplasty'' was published in September 2011[8] as an update of the previous guide from 2007. The guide was elaborated by a panel of methodologists, epidemiologists, statisticians and traumatologists. Key decisions about which studies to include and the final recommendations were specifically subject to the approval of non-physician authors. None of the authors had any financial conflicts of interest and, in addition, intellectual conflicts of interest[12] were also taken into account. Briefly, these consist in authors of a previous study or recommendation having conflicts when objectively evaluating their validity. The method of literature analysis was based on individually assessing the specific results of each study in 2 areas: first, quality was assessed as a measure of the internal validity of each study. This was evaluated according