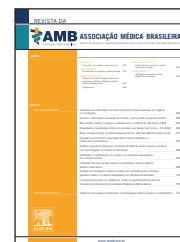


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Original article

Venous thromboprophylaxis in medical patients: an application review[☆]

Mariana Nassif Kerbauy^a, Fabio Ynoe de Moraes^{b,*}, Lucila Nassif Kerbauy^c,
Lucieni de Oliveira Conterno^d, Silene El-Fakhouri^e

^aDepartment of Clinical Medicine, Escola Paulista de Medicina, Universidade Federal de São Paulo (EPM/Unifesp), São Paulo, SP, Brazil

^bDepartment of Radiotherapy, Oncology Center, Hospital Sírio-Libanês, São Paulo, SP, Brazil

^cDepartment of Hematology and Hemotherapy, Universidade de São Paulo (USP), São Paulo, SP, Brazil

^dClinical Epidemiology Nucleus, Escola de Medicina de Marília (FAMEMA), Marília, SP, Brazil

^eIntensive Care Unit, FAMEMA, , Marília, SP, Brazil

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ABSTRACT

Objective: Routine thromboprophylaxis, despite its well-known effectiveness and the fact that venous thromboembolism is a potentially avoidable condition, is not fully established in clinical practice. The objectives of the present study were to determine how often thromboprophylaxis is used and the presence of thromboembolism risk factors, and to verify the appropriateness of its use in medical inpatients, assuming a long-standing national guideline as a parameter.

Methods: This was a retrospective cross-sectional study, involving inpatients with medical conditions in the adult general ward of a faculty hospital. The review was based on a defined guideline.

Results: 146 patients were included in the review. At least one risk factor for venous thromboembolism was found in 94.5%. In 130 (89%) patients, prophylactic heparin was indicated, and some kind of heparin was prescribed in 73.3%. Regarding the adequacy of prophylaxis, 53.4% of prescriptions were correct regarding prophylaxis indication and dose; 24% had incorrect dose or frequency of use; 19.2% had no prophylaxis prescription, although it was indicated; and in five cases (3.4%), the drug was prescribed, even though it was not indicated.

Conclusion: Thromboprophylaxis is underused in this population, and an inappropriate dose was prescribed in 50% of cases. Therefore, future studies and interventions should include an educational program started from the emergency department care, an essential step to bring evidence closer to clinical practice.

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[☆]Study conducted at the Department of Intensive Care Medicine and Clinical Epidemiology Nucleus, Faculdade de Medicina de Marília (FAMEMA). Marília, SP, Brazil.

*Corresponding author at: Rua Cubatão, 1001, Vila Mariana, São Paulo, SP, 04013-043, Brazil.

E-mail: fymoraes@gmail.com (F.Y. Moraes).

Trombopprofilaxia venosa em pacientes clínicos: análise de sua aplicação

R E S U M O

Palavras-chave:

Fatores de risco
Fidelidade a diretrizes
Heparina
Profilaxia
Tromboembolismo venoso

Objetivo: A trombopprofilaxia de rotina, a despeito de sua efetividade estar bem estabelecida e o tromboembolismo venoso ser uma condição potencialmente evitável, não se apresenta completamente consolidada na prática clínica. Os objetivos do presente estudo são: 1. Determinar a frequência da utilização da trombopprofilaxia e presença dos fatores de risco para tromboembolismo; 2. Verificar a adequação de sua utilização em pacientes clínicos internados, assumindo como parâmetro uma diretriz nacional estabelecida.

Métodos: Estudo retrospectivo transversal envolvendo pacientes internados por doenças clínicas em uma enfermaria geral de adultos de um hospital escola. A análise foi baseada em diretriz definida.

Resultados: Foram incluídos 146 pacientes para análise. Destes, 94,5% possuíam pelo menos um fator de risco para tromboembolismo venoso. Em 130 (89%) pacientes havia indicação para uso de heparina profilática, sendo que em 73,3% dos casos estava prescrito algum tipo de heparina. Quanto à adequação da profilaxia, 53,4% das prescrições estavam corretas em relação à indicação e à dose da profilaxia; 24% apresentavam dose ou frequência incorretas; 19,2% não tinham prescrição de profilaxia, apesar de ela ser indicada; e em cinco casos (3,4%) o fármaco foi prescrito, apesar de não haver indicação.

Conclusão: Existe subutilização da trombopprofilaxia nesta população, com inadequada dose prescrita em 50% dos casos. Portanto, estudos e intervenções futuros devem incluir um programa educacional que se inicie desde o atendimento em pronto-socorro, sendo essencial para aproximar a evidência à prática clínica.

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Introduction

Venous thromboembolism (VTE) is a group of diseases including deep venous thrombosis (DVT), central venous catheter-related thrombosis, thrombosis in different sites, and the most severe type, pulmonary thromboembolism (PTE), all of which are potentially avoidable causes of morbidity and mortality.¹⁻⁴

Hospitalization for a nonsurgical acute disease is associated with an eight-fold rise in VTE risk, representing approximately 25% of all events assigned to this condition.⁵ Furthermore, postmortem studies demonstrate that approximately 10% of inpatient death causes result from pulmonary embolism.⁶ Thus, a low degree of clinical suspicion is assumed, considering that in part of PTE cases, symptoms are forme fruste.^{6,7}

Most studies on thromboprophylaxis in clinical populations involve patients at high risk for a thromboembolic event. Recently, studies and guidelines have standardized and promoted thromboprophylaxis in medium- and low-risk patients.^{5,8-11} In this setting, some authors have described interventions markedly reducing the risk of VTE in medical patients.^{11,12} An effort of current guidelines has been to introduce thromboprophylaxis recommendations for several inpatient groups.¹³⁻¹⁶

VTE risk stratification is performed by initially considering the patient's age, mobility level, and comorbidities. Individuals aged 40 years and over, with reduced mobility and at least one additional risk factor (among the following: stroke, cancer, central and Swan-Ganz catheters, bowel inflammatory disease, severe respiratory disease, acute rheumatic disease, pregnancy

and postpartum, previous VTE history, acute myocardial infarction [AMI], class III or IV congestive heart failure [CHF], age over 55 years, infection [except for thoracic conditions], arterial insufficiency, intensive care unit admission, obesity, lower limb weakness/paralysis, chemo/hormonal therapy, hormone replacement therapy, nephrotic syndrome, and thrombophilia) for VTE should be considered at risk. In the absence of contraindications, prophylaxis is indicated. For individuals under 40 years, specific guidelines should be followed.^{4,10}

However, despite the well-proven benefits, routine thromboprophylaxis for medical patients with risk factors is poorly established into daily medical practice.^{17,18} There is non-adherence to consensus and guideline recommendations, for which the main reasons are: 1) lack of a systematic assessment for VTE risk factors and the contraindications for heparin use;^{17,19} 2) unawareness of VTE risk, likely favored by patients' diversity; 3) difficult definition for risk factors and thromboprophylaxis indication, as well as the several available guidelines, resulting in inaccurate and unclear indications for thromboprophylaxis.¹¹ This study hypothesized that VTE prophylaxis is underused.

The objectives of this study were to retrospectively assess medical inpatients at risk of VTE admitted to a general medical ward, to define the ratio of medical patients at risk of VTE receiving prophylaxis, and to evaluate the adequacy of prophylaxis use. The Brazilian Guideline for Venous Thromboembolism: Prophylaxis in Medical Patients¹⁰ a freely available publication for the general public based on the local reality and approved by several medical societies and the Federal

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