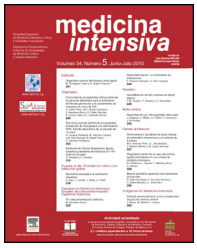
Med Intensiva. 2014;38(6):347–355

medicina intensiva

www.elsevier.es/medintensiva



ORIGINAL

Prevention of venous thromboembolic disease in the critical patient: An assessment of clinical practice in the Community of Madrid☆

P. García-Olivares*, J.E. Guerrero, M.J. Tomey, A.M. Hernangómez, D.O. Stanescu

Unidad de Cuidados Intensivos, Hospital General Universitario Gregorio Marañón, Madrid, Spain

Received 1 February 2013; accepted 13 July 2013
Available online 28 June 2014

KEYWORDS
Venous thromboembolic disease;
Deep venous thrombosis;
Thromboprophylaxis;
Intensive care unit;
Critical patient

Abstract
Objective: To analyze measures referred to venous thromboembolic prophylaxis in critically ill patients.
Design: An epidemiological, cross-sectional (prevalence cut), multicenter study was performed using an electronic survey. Comparison of results with quality indexes of the Spanish Society of Intensive Care Medicine, the American College of Chest Physician guidelines and international studies.
Setting: Intensive Care Units (ICUs) in the Community of Madrid (Spain).
Patients: All patients admitted to the ICU on the day of the survey.
Variables of interest: General aspects of venous thromboembolic prophylaxis and protocols used (risk stratification and ultrasound screening). A descriptive analysis was performed, continuous data being expressed as the mean or median, and categorical data as percentages.
Results: A total of 234 patients in 18 ICUs were included. Eighteen percent (42/234) received no prophylaxis, and 55% had no contraindication to pharmacological prophylaxis. Of the 192 patients receiving prophylaxis, 84% received pharmacological prophylaxis, 14% mechanical prophylaxis and 2% combined prophylaxis. Low molecular weight heparin was the only pharmacological prophylaxis used, with a majority use of enoxaparin (17 of 18 ICUs). In patients with mechanical prophylaxis (31/192), antiembolic stockings were the most commonly used option (58%). Pharmacological prophylaxis contraindications were reported in 20% of the patients (46/234), the most frequent cause being thrombocytopenia (28% of the cases). Fifty percent of the ICUs used no specific venous thromboembolic prophylaxis protocol.
Conclusions: Pharmacological prophylaxis with low molecular weight heparin was the most frequently used venous thromboembolic prophylactic measure. In patients with contraindications

☆ Please cite this article as: García-Olivares P, Guerrero JE, Tomey MJ, Hernangómez AM, Stanescu DO. Profilaxis de la enfermedad tromboembólica venosa en el paciente crítico: aproximación a la práctica clínica en la Comunidad de Madrid. Med Intensiva. 2014;38:347–355.

* Corresponding author.
E-mail addresses: garciaolivaresp@gmail.com, pitiusas@terra.es (P. García-Olivares).

to pharmacological prophylaxis, mechanical measures were little used. The use of combined prophylaxis was anecdotal. Many of our ICUs lack specific prophylaxis protocols.

PALABRAS CLAVE
Enfermedad tromboembólica venosa;
Trombosis venosa profunda;
Tromboprofilaxis;
Unidad de cuidados Intensivos;
Paciente crítico

Profilaxis de la enfermedad tromboembólica venosa en el paciente crítico: aproximación a la práctica clínica en la Comunidad de Madrid

Resumen
Objetivo: Analizar la utilización de medidas de profilaxis de enfermedad tromboembólica venosa en el paciente crítico.
Diseño: Estudio epidemiológico, transversal (corte de prevalencia) y multicéntrico realizado mediante encuesta electrónica. Comparación de resultados con índices de calidad de la Sociedad Española de Medicina Intensiva, guías del American College of Chest Physicians y registros internacionales.
Ámbito: Unidades de Cuidados Intensivos (UCI) de la Comunidad de Madrid.
Pacientes: Todos los pacientes ingresados en UCI el día de la realización de la encuesta.
Variables de interés: Aspectos generales de profilaxis de enfermedad tromboembólica venosa y utilización de protocolos. Análisis descriptivo expresado como media o mediana para variables cuantitativas y porcentajes para variables cualitativas.
Resultados: Se incluyeron 234 pacientes de 18 UCI. El 18% (42/234) no recibía ninguna profilaxis; un 55% de ellos no tenía contraindicación para profilaxis farmacológica. De los 192 pacientes con profilaxis, en el 84% fue farmacológica, en el 14% mecánica y en el 2% combinada. Las heparinas de bajo peso molecular fueron los únicos fármacos usados (enoxaparina en 17 de 18 UCI). En pacientes con profilaxis mecánica (31/192) las medias de compresión graduada fueron las más utilizadas (58%). El 20% de los pacientes (46/234) presentaba contraindicación para profilaxis farmacológica, con trombocitopenia como causa más frecuente (28%). La mitad de las UCI no utilizaba un protocolo específico de profilaxis.
Conclusiones: La profilaxis farmacológica con heparinas de bajo peso molecular fue la medida preventiva de enfermedad tromboembólica venosa más utilizada. Considerando los pacientes con contraindicación para profilaxis farmacológica, los sistemas mecánicos de profilaxis fueron poco utilizados. El uso de profilaxis combinada fue anecdótico. Hubo ausencia de protocolos específicos de profilaxis en muchas de nuestras UCI.

Introduction

Venous thromboembolic disease (VTED), which comprises both deep venous thrombosis (DVT) and pulmonary embolism, is one of the most common avoidable complications in hospitalized patients.[1] The association of multiple risk factors (previous chronic diseases, severity of the condition leading to admission, the use of mechanical ventilation, immobility, invasive procedures, etc.) causes critically ill patients to be particularly vulnerable to VTED.[2] In this respect, a number of studies have demonstrated a high incidence of VTED in patients admitted to Intensive Care Units (ICUs), with the observation of DVT in 10–28% of the individuals who do not receive prophylaxis,[2,3] and of pulmonary embolism in 7–27% of the necropsy studies in patents who have died of any cause.[4] The use of both pharmacological and non-pharmacological prophylactic measures has been able to lower the incidence of DVT to 5–10%.[2,5,6] The utilization of such prophylactic measures is therefore regarded as a quality index of particular relevance in the critically ill.[7]

The latest clinical practice guides of the American College of Chest Physicians (ACCP 2012) offer concrete recommendations for the prevention of VTED in different diseases and types of patients, including the critically ill.[8–11] The heterogeneity and complexity of the patients admitted to the ICU (with multiple and different conditions leading to admission, previous chronic diseases predisposing to VTED, the presence of factors that increase the risk of bleeding, the use of medical apparatuses and devices, techniques and drugs routinely used in these Units, etc.) make the application of these recommendations complex and difficult, to say the least. To this problem we in turn must add the possible increase in mortality rate associated to a lack of prophylaxis or the use of inadequate prophylaxis, and which varies according to the type of disease involved, but can range from 8% in the septic patient to 15% in polytraumatized individuals.[12]

A series of measures are currently available for the prevention of VTED in the critical patient (Table 1). Pharmacological (drug) prophylaxis with both unfractionated heparin (UFH) and low molecular weight heparin (LMWH) has been shown to be the most effective preventive measure in both medical disease (grade 2C recommendation) and in general surgical or traumatologic cases with a high risk of VTED (grade 1B recommendation). The utilization of other drugs administered via the oral route, such as direct thrombin and factor Xa inhibitors, has not been