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Author(s)	Khan, Muhammad Irfan; O'Leary, C.; Silvani, V.; O'Brien, Aisling; O'Connor, M.; Duggan, C.; O'Shea, S.
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Venous Thromboembolism – Risk Assessment Tool and Thromboprophylaxis Policy: A National Survey

MI Khan, C O’Leary, V Silvari, A O’Brien, M O’Connor, C Duggan, S O’Shea

Cork University Hospital

Abstract

Venous Thromboembolic (VTE) events in hospitalised patients are associated with significant mortality and morbidity and a major economic burden on the health service. It is well established in the literature that active implementation of a mandatory risk assessment tool and thromboprophylaxis policy reduces the incidence of hospital associated thrombosis (HAT). This study examines the utilization of a VTE risk assessment tool and thromboprophylaxis (TP) policy in Irish hospitals that manage acute admissions. A national survey was distributed to forty acute hospitals throughout Ireland. The response rate was 78% (31/40). The results showed that only 26% (n=8/31) of acute hospitals in Ireland have a local implemented TP policy. Six (75%) of these eight had a risk assessment tool in conjunction with the TP policy. All respondents who did not report to have a TP policy and risk assessment tool agreed that they should implement VTE prevention policy at their hospital. Based on the data from this survey and evidence from the effectiveness of the VTE prevention programme introduced in the United Kingdom, there is a need for a national risk assessment and

thromboprophylaxis policy in Ireland. This change in practice would have the potential to prevent or reduce the morbidity and mortality associated with hospital acquired thrombosis

Introduction

Venous thromboembolism (VTE), which includes deep vein thrombosis (DVT) and pulmonary embolism (PE), is a major cause of preventable morbidity and mortality in hospitalized patients¹. In 2004 there were more than half a million deaths related to VTE across the European Union². Three quarters of these deaths were associated with Hospital Acquired Thrombosis (HAT). There is a consistent association between the rising incidence of VTE and increasing age. In Ireland, 33% of the hospitalised population is above 65 years³. Prevention is the key to reduce death and disability resulting from HAT⁴⁻⁶. There is no national VTE risk assessment (RA) tool or thromboprophylaxis (TP) policy in Ireland. The aim of this survey was to examine how many acute hospitals in Ireland utilise a VTE risk assessment tool and TP policy.

Methods

There is no validated survey in the literature to collect the data required therefore a survey was constructed by the investigating research team. The team included haematologists with a special interest in haemostasis and thrombosis. The survey contained ten questions which collected data relating to thromboprophylaxis policy and practices around the country (table 1). The survey was distributed by email to all Chief Executive Officers (CEOs)/General Managers (GMs) and Clinical Directors of acute hospitals in Ireland via the Medical Director of Cork University Hospital in April 2015. Maternity, paediatric and non-acute hospitals such as community hospitals were excluded from this survey. A hard copy of the survey was also sent with a stamp addressed return envelope for those who preferred to use this method. Responses were anonymised to increase the response rate and openness. Results were analysed using Microsoft Excel.

Table 1: Survey Questions
Q 1: Level of hospital?
Q 2: Which departments are in your hospital?
Q 3: Is there a formal implemented thromboprophylaxis policy at your hospital for the whole of the hospital?
Q 4: If yes, what is it based on?
Q 5: Is there a risk assessment tool incorporated into the thromboprophylaxis policy?
Q 6: How is the risk assessment tool and thromboprophylaxis policy accessed?
Q 7: Do you audit the use of Thromboprophylaxis policy?
Q 8: Do you think a formal thromboprophylaxis policy should be implemented at your hospital?
Q 9: Which thromboprophylaxis modalities are utilised at your hospital?
Q 10: Is VTE including deep venous thrombosis (DVT) and pulmonary embolism (PE), one of the most significant clinical problems at your hospital?

Results

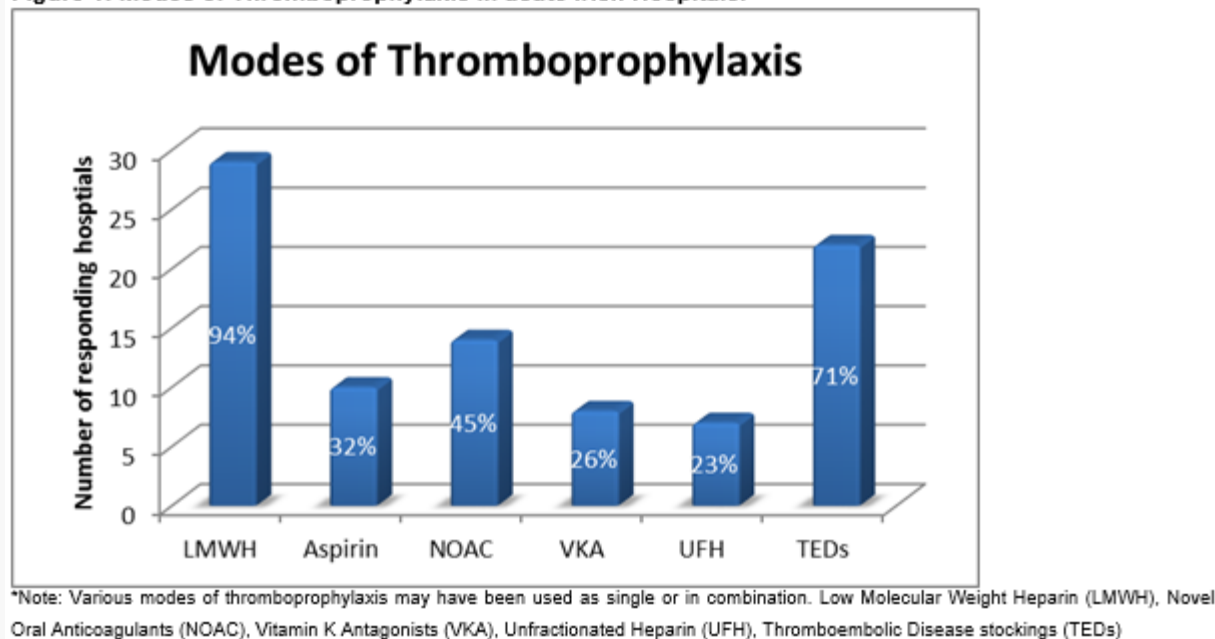
Forty surveys were distributed to hospitals throughout Ireland. Thirteen surveys were completed online and eighteen were completed by post. This resulted in a response rate of 78% (31/40). Questions one and two were excluded from analysis for the following reasons. Question one was unanswered by all respondents. There was a technical difficulty with question two which meant that respondents were not able to make multiple selections of the departments within their hospital using the online survey. Therefore, it was decided by the investigators to exclude this question. A TP policy was implemented in 26% (n=8/31) hospitals.

Questions four to seven were only relevant to those that had a TP policy in place and focused on the policy content. Eight out of eight hospitals reported their policy is based on National Institute of health and Clinical Excellence (NICE) guidelines. One respondent reported using American College of Chest Physicians (ACCP) guidance in addition to NICE. Six (75%) of these eight had a risk assessment tool in conjunction with the TP policy.

The sixth question addressed how users access this policy. Two thirds (n=6/8) reported their policy was paper based and attached to the drug prescription chart and admission document. Two respondents

reported the policy is accessible electronically. All respondents who had a TP policy (8/8) reported that they regularly audit their TP policy. All respondents who did not report to have a TP policy in their hospital (n=23/31) agreed that a formal TP policy should be implemented. The ninth question addressed the TP modalities used (Figure 1).

Figure 1: Modes of Thromboprophylaxis in acute Irish Hospitals.



The last question in the survey asked respondents if they agreed or disagreed that “VTE, including DVT and PE, is one of the most significant clinical problems in your hospital”. There was agreement among 42% (n=13/31) of responders and one respondent did not reply to this question.

Discussion

This is the first survey addressing the issue of thromboprophylaxis in Irish hospitals. It demonstrated wide variations in practices among hospitals. VTE is a major cause of preventable morbidity and mortality in hospitalized patients⁷⁻¹⁰. Three quarters of Irish acute hospitals have no TP policy. Hospital acquired VTE may be prevented by risk assessing all hospitalised patients and prescribing thromboprophylaxis where appropriate.

Following a report in 2007 from the Common Health Committee in the UK, that more than 25,000 deaths in hospitals are related to VTE¹¹, a national VTE prevention programme was introduced in the United Kingdom (UK). Implementation of the TP policy and risk assessment was mandatory in all National Health Service (NHS) hospitals in England in 2010¹². These hospitals were asked to meet the VTE risk assessment screening target of 90% of hospitalised patients. To encourage compliance, these NHS funded acute care providers were linked to the national Commissioning for Quality and Innovation

(CQUIN) payment framework for 2010-2011¹³. This has shown a reduction in VTE related secondary diagnosis, readmission and a reduction in VTE related mortality¹⁴.

Based on the data from this survey and evidence from the VTE prevention programme introduced in the United Kingdom, there is need for a national risk assessment and TP policy in Ireland. This would have the potential to prevent or reduce the morbidity and mortality associated with hospital acquired thrombosis. This study demonstrated willingness amongst hospitals, which did not already have a TP and a risk assessment tool, to implement measures to prevent HAT.

Study limitations include the use of a non-validated questionnaire. Clinical directors/CEOs/GMs of acute hospitals may not be aware of all local risk assessment tools and policies in their hospitals. The sampling frame used limits the detection of individual clinicians' practice patterns and there may be some underestimation of the actual non documented TP practices within the hospital. Nevertheless, this survey method yielded useful estimates of TP policies across Ireland with a good response rate.

The current lack of a national VTE risk assessment tool and TP policy within hospitals in Ireland is a significant and acknowledged patient safety risk. Variability in clinical practice highlights the need for rigorous efforts to develop and implement an evidence based national HAT prevention program.

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Conflict of interest

The authors have declared no conflict of interest.

Correspondence:

Dr. Muhammad Irfan Khan, Haematology, Cork University Hospital, Cork.

Email: Muhammad.Khan@hse.ie

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