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Regular Article

Thromboprophylaxis in Acutely Ill Medical Patients: Results of A Survey Among Italian Physicians

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ABSTRACT

Aims: acutely ill medical patients are at increased risk of venous thromboembolism (VTE) and often require thromboprophylaxis, but patient selection and adequate therapeutic decisions may be difficult due to the heterogeneity and the complexity of this population. We conducted a survey among a large cohort of Italian physicians to assess their approach to some important "grey" areas of VTE prevention in this setting.
Methods: a questionnaire was distributed during the meeting of a national society of Internal Medicine (FADOI), held in May 2013. Four clinical scenarios describing areas of clinical uncertainty were administered to participants: the first on a patient with acute ischemic stroke; the second on a patient with severe renal insufficiency; the third on the duration of prophylaxis in the post-acute setting; and the last on a patient at high risk of VTE and at moderate risk of bleeding with preserved mobility.
Results: 453 questionnaires were returned (participants mean age 48.5 years). About 70% of participants systematically assess VTE and bleeding risk in their clinical practice, but a minority of them use risk assessment models. Prolonged prophylaxis in the post-acute setting was voted by more than eighty percent of participants; replies to the other three clinical scenarios were more heterogeneous with none of the options selected by more than 60% of participant.
Conclusion: physicians approach to "grey" areas of antithrombotic prophylaxis in the medical setting is quite heterogeneous and sometimes partially in contrast to recent guidelines, reinforcing the need for educational programs and high quality studies in this setting.

Introduction

Acutely ill medical patients are at increased risk of venous thromboembolism (VTE), which can occur during hospitalization or after discharge [1]. A number of clinical trials and meta-analyses have shown that pharmacologic prophylaxis with antithrombotic drugs significantly reduces the risk of fatal pulmonary embolism as compared to placebo or no treatment in these patients, with no or minimal increase in the risk of major bleeding [2–4]. Yet, even in recent studies, only about half of eligible hospitalized medical patients receive appropriate thromboprophylaxis [5–7]. The heterogeneity of the medical population has always posed a substantial problem in identifying acutely ill patients who could benefit from an appropriate prophylaxis. A number of risk assessment models (RAMs) have been recently proposed to assist clinicians in evaluating the risk of thromboembolic and major bleeding complications [8–11]. Unfortunately, RAMs often included different items (sometimes with conflicting results), and failed to assess risk factors that are commonly encountered in clinical practice and considered relevant by clinicians. Thus, possibly as a consequence of these limitations, are not broadly used.

Furthermore, risks and benefits of antithrombotic prophylaxis in special populations, such as underweight or obese patients and patients with severe renal failure [12], remain to be established since these

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groups of patients were not included in the randomized controlled trials on this topic.

Finally, although it was hypothesized that, in some high risk medical patients, anticoagulant prophylaxis should be continued after discharge, none of the available trials has brought convincing evidence on the potential benefits of prolonged prophylaxis in this population [13].

Thus, since evidences of the literature on several aspects of prophylaxis in medical patients are still not compelling, thus leading to potentially variable approaches in real-life clinical practice, we conducted a survey among a large cohort of Italian physicians to assess their approach to some important "grey" areas of antithrombotic prophylaxis in this setting including acute ischemic stroke, severe renal insufficiency, duration of prophylaxis in the post-acute setting and a concomitance of a substantial risk of VTE and bleeding.

Methods

A questionnaire describing 4 different clinical scenarios was distributed during the national meeting of an Italian scientific society of Internal medicine, FADOI (Italian Federation of Internal Medicine), held in Taormina, Italy during May, 2013. FADOI is a large society with more than 2000 affiliates from all the twenty Italian regions. Almost all the FADOI members are clinicians actively working in medical wards in teaching and non-teaching hospitals and they all have direct patient responsibility. The meeting was attended by about 900 participants, nearly all of whom are members of the society. During the first day of the meeting, the questionnaire was introduced to the participants with a brief oral presentation. Nine hundred questionnaires were distributed and then collected at the registration desk throughout the meeting. All answers were entered into a database from which respondent information was dissociated; thus the results of the survey were analyzed in an anonymous fashion. In the first page of the questionnaire we proposed 5 questions aimed to describe the training and the experience of the participants. In particular, participants were asked about their age, date of training, their specialty, and their workplace (hospital, post-acute setting, general practitioner ambulatory). Respondents were also queried about whether they had a special interest in thrombosis and haemostasis (explicitly asking "whether they actually ran a specific ambulatory and/or if he/she is usually "on call" for thrombosis and haemostasis issues in the hospital), if they work with colleagues expert in thrombosis and haemostasis, and, finally, about whether they use RAMs or other clinical or laboratory scores to assess thromboembolic and haemorrhagic risks in their patients.

The 4 scenarios described hypothetical patients. For each of the 4 scenarios presented, we proposed 6 or 7 options for the management of the patients. Clinical scenarios and management options are described in Table 1.

Briefly, the first scenario described a patient with acute exacerbation of chronic obstructive pulmonary disease (COPD) discharged from the hospital to a post-acute setting in order to continue the intra-venous administration of antibiotic therapy. The second scenario described a patient with an acute, large ischemic cerebral lesion at potentially high risk of hemorrhagic transformation who was treated with low doses of acetyl salicylic acid (ASA). The third scenario described a patient with severe renal insufficiency, urinary tract infection and fever requiring total bed rest. The last scenario described a patient with pneumonia, with preserved mobility, who was defined at high risk of thromboembolic complications by the Padua score [8] and at low risk of bleeding according to the IMPROVE bleeding score [11].

For all these scenarios, participants were asked to decide about the optimal antithrombotic prophylaxis.

Continuous variables were expressed as mean plus or minus the standard deviation (SD); Categorical data and qualitative variables are given as counts and percentages.

Subgroup analyses including only participants with more clinical experience (who conferred the degree more than 10 years ago), participants working in hospital, and participants with a special interest in thrombosis and haemostasis were performed. Statistical analyses were performed using SPSS version 19.0

Results

Four hundred and fifty three of the 900 distributed questionnaires were returned (50.3%). Characteristics of participants are summarized in Table 2. Mean age of participants was 46.1 years (+10.4 years); all but 76 participants (16.8%) had at least one specialty and most of the participants had their specialty in Internal Medicine (61%); 413 of 453 (91.2%) participants work in a hospital; about 40% of participants had a specific interest in thrombosis and haemostasis and 47.5% of participants had at least one colleague expert in this field.

The risk of thromboembolic complications is routinely assessed by 321 participants (70.9%) in their clinical practice, although the method used for stratification was specified by only 267 participants. A formal RAM is used by 126 participants and included the Padua score (87 participants, 19.2% of the total number of participants), a score developed by the FADOI scientific society (9 participants, 2.0%), the Geneva score (6 participants, 1.3%) and the IMPROVE score (5 participants, 1.1%) whereas a local evaluation score is used by 19 participants (4.2%) and 141 participants assess the thromboembolic risk with a clinical evaluation (31.1%).

The risk of bleeding complications is routinely assessed by 339 participants (74.8%), although the stratification method was specified by only 324 of them. The risk of major bleeding is assessed with a clinical evaluation by 165 participants (36.4% of the total number of participants), whereas 134 participants (29.6%) use the HAS-BLED score, 9 participants (2.0%) use a local evaluation score, and only 16 participants (3.5%) use the IMPROVE score.

The results from the four case scenarios are summarized in Fig. 1.

In the first scenario, more than 85% of participants would have prescribed extended prophylaxis with LMWH or UFH after discharge for a total of 35 days, whereas only a minority of participants would have stopped anticoagulant prophylaxis after a maximum of 14 days.

In the second scenario, about 60% of participants would have prescribed a prophylactic dose of LMWH in association with low doses of aspirin to the patient with acute ischemic stroke, whereas about a quarter would have not added any other pharmacological or non-pharmacological therapy; about 10% would have added clopidogrel to aspirin; and only a minority of participants would have used elastic stockings or intermittent pneumatic compression.

In the third scenario, more than 60% of participants would have chosen a reduced prophylactic dose of LMWH or fondaparinux in the patient with severe renal insufficiency, whereas more than 25% of participants would have used a full prophylactic dose of LMWH or fondaparinux; and only a minority of participant would have chosen a prophylactic dose of UFH.

In the last scenario, about 40% of participants would have prescribed a reduced prophylactic dose of LMWH or fondaparinux; one third of participants would have used a full prophylactic dose of LMWH or fondaparinux; and more than 10% of participants would have not prescribed any antithrombotic prophylaxis to this patient.

Subgroup analyses including only participants with more clinical experience, participants working in hospital, participants with a personal special interest in thrombosis and haemostasis, and those who work with colleagues expert in thrombosis and haemostasis gave results that were only slightly different to those observed in the principal analyses (Appendix 1). Of interest, significantly more participants among those using the Padua prediction score would have prescribed a prophylactic dose of LMWH or fondaparinux to the patient described in case scenario 4, as compared to participants who reported to not use this score (90.8 vs 76.0; $p < 0.01$).