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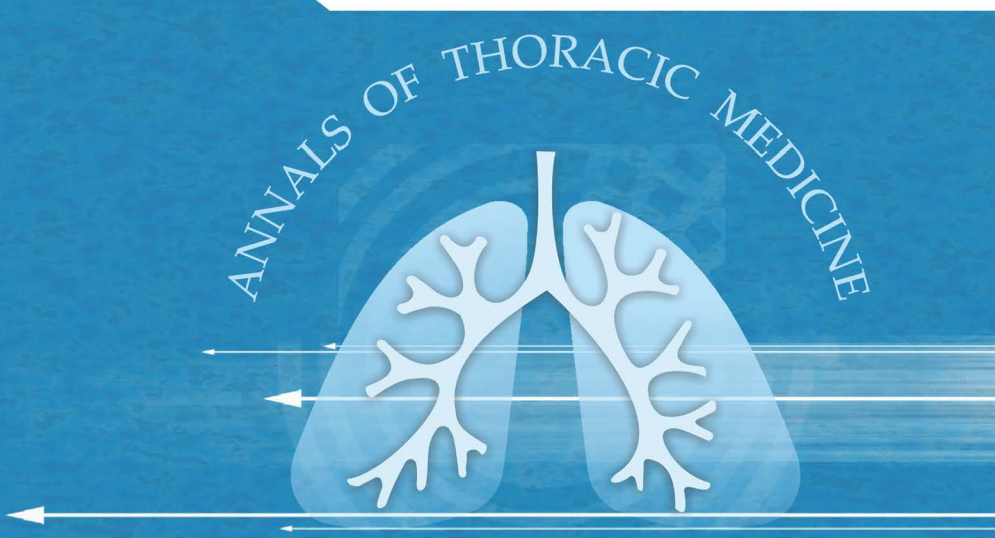

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Venous thromboembolism prophylaxis: Solutions are in our hands

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Venous thromboembolism (VTE) is a spectrum of diseases involving deep venous thrombosis (DVT) and/or pulmonary embolism (PE). Without prophylaxis, the probable incidence of confirmed hospital acquired DVT is approximately 10 to 40% of medical or surgical patients and 40 to 60% followings major orthopedic surgery.[1] Venous thromboembolism carries significant hospital morbidities and mortalities. It has been estimated that 10% of hospital deaths are due to pulmonary embolism (PE).[1] Therefore, VTE is considered the number one cause of preventable death among hospitalized patients.

Unfortunately, VTE prophylaxis for high risk hospitalized patients is extremely underutilized. Implementation of preventive strategies has been proven to be able and effective, and adverse outcomes can be significantly minimized. In addition, effective pharmacological and mechanical VTE prophylaxis is available for medical and surgical patients. Furthermore, VTE prophylaxis has been found to be cost-effective in many clinical trials.[2]

For many years, physicians continue to underutilize VTE prophylaxis for their patients due to historical misconceptions and reasons that remain unproven. Some of these misconceptions include fear of bleeding from anticoagulants; the belief that the overall incidence of VTE among hospitalized and postoperative patients is too low to consider prophylaxis; concern over heparin-induced thrombocytopenia (HIT); unawareness that broad application of prophylaxis may be cost-effective; and perceptions that VTE is not a significant problem in their practice.[1]

In August 2004, for the first time, the French Public-Health Programme for 2004–2008 included a tangible objective to reduce the incidence of DVTs by 15% in 2008. In April 2007, the United Kingdom (UK) Government announced a national VTE strategy, which required mandatory risk assessment and prophylaxis for hospitalized patients in all UK hospitals. In December 2004, in United States (US) the public health leaders established the Coalition to Prevent DVT and PE, and marked March 2004 as the first US DVT Awareness Month. In 2008, Steven Galson issued. The Surgeon General's Call to Action to Prevent Deep Vein Thrombosis and Pulmonary Embolism.[3]

The wide gap between guidelines and implementation still exist, in a multinational cross-sectional study looking at VTE risk and prophylaxis in the acute hospital care setting (ENDORSE study). Cohen *et al.* found that only half of their hospitalized patients actually received ACCP-recommended VTE thromboprophylaxis (54.7% of surgical patients, 32.5% of medical patients).[4] In another local study, Aboelnazr and his colleagues found that only 21.7% of medical patients received ACCP-recommended VTE thromboprophylaxis.[5]

The study was conducted at Saudi Aramco Medical Services organization and is reported in the (April-June) issue of Annals of Thoracic Medicine ATM. The authors stressed on a quality improvement project regarding adherence to ACCP-recommended VTE prophylaxis guidelines in their hospitalized medical patients. They achieved a notable rate of 91% in-hospital VTE prophylaxis. Although, they started at the rate of 63%, and after using multiple strategies which include education, daily e-mail reminder and finally, considering VTE prophylaxis as part of their weekly round, they managed to attain a rate of 100%, making the overall rate of 91% of VTE prophylaxis. Upon review of the literature I found no similar study that has accomplished these outstanding results. From quality management point of view, this success should be complemented. However, it would be helpful if the investigators had looked at and clarify whether VTE prophylaxis was appropriately done based on the right drug, dose, timing, and duration of prophylaxis. More important is developing mechanisms ensuring the sustainability of these outstanding results. As a result of this high rate of VTE prophylaxis the authors report a significant increase in the time-free period of the VTE and report a period of 11 months with no single VTE.

Several strategies have been reported in the literature that can enhance VTE compliance

rates. First, increasing health care provider awareness of VTE prophylaxis through conducting periodic educational sessions.[6] Second, using medical admission order sets that incorporate VTE prophylaxis.[7] Third, using electronic alerts to physicians whose patients are at risk for VTE but not receiving VTE prophylaxis, called computer-based clinical decision support systems.[8] Fourth, developing national nonprofit organizations such as the Saudi Arabian Venous Thrombo Embolism (SAVTE) advisory group (www.savte.com.) and or using the expertise of the international organization in the same field like the American College of Chest Physicians (www.accp.org) who devoted their time to increase the awareness and knowledge of Venous Thrombo-Embolism (VTE), and to facilitate advances in the treatment of affected people, as well as the routine implementation on venous thrombo-embolism prophylaxis measures among health care providers (HCP). They also adopt the notion of "think tank" to provide expertise to advise physicians, scientists, health authorities, and the healthcare industry regarding medical technologies and pharmaceuticals relevant to VTE prophylaxis.

On conclusion, prevention of VTE in hospitalized patients with moderate and high risk of VTE is considered as patient safety issue with medico legal implications. Therefore, each hospital has to establish its own VTE prophylaxis policy along with the international standards, monitor the implementation thereof, audit and update for control of this "epidemic." At last, VTE prophylaxis is a long term journey of medical quality management that we know the beginning of this journey but not the end.

References

1. Geerts WH, Pineo GF, Heit JA, Bergqvist D, Lassen MR, Colwell CW, *et al*. Prevention of venous thromboembolism: The Seventh ACCP Conference on Antithrombotic and Thrombolytic Therapy. Chest. 2004;126:338S -400S.
2. McGarry LJ, Thompson D, Weinstein MC, Goldhaber SZ. Cost effectiveness of thromboprophylaxis with a low-molecular-weight heparin versus unfractionated heparin in acutely ill medical inpatients. Am J Manag Care 2004;10:632-42.
3. Available from: http://www.surgeongeneral.gov/topics/deepvein/ calltoaction/call-to-action-on-dvt-2008.pdf [Last accessed on 2011 Jan 11].
4. Cohen AT, Tapson VF, Bergmann JF, Goldhaber SZ, Kakkar AK, Deslandes B, *et al*. Venous thromboembolism risk and prophylaxis in the acute hospital care setting (ENDORSE study): A multinational cross-sectional study. Lancet 2008;371:387-94.
5. Aboelnazar E, Alhameed F, Galal S. VTE related mortality and morbidity , Abstract. 21st International Congress on Thrombosis. Vol. 37, Supplement 1, 2009-10:A37.
6. Tooher R, Middleton P, Pham C, Fitridge R, Rowe S, Babidge W, *et al*. A systematic review of strategies to improve prophylaxis for venous thromboembolism in hospitals. Ann Surg 2005;241:397-415.
7. O'Connor C, Adhikari NK, DeCaire K, Friedrich JO. Medical admission order sets to improve deep vein thrombosis prophylaxis rates and other outcomes. J Hosp Med 2009;4:81.
8. Kucher N, Koo S, Quiroz R, Cooper JM, Paterno MD, Soukonnikov B, *et al*. Electronic alerts to prevent venous thromboembolism among hospitalized patients. N Engl J Med 2005;352:969-77.

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