Awareness of venous thromboembolism prophylaxis must be increased

In a media-fuelled society becoming progressively more critical of the medical profession, we persist in not automatically providing our patients with appropriate venous thromboembolism prophylaxis. Are we placing not just our patients but also our professional credibility at risk?

Introduction

The medical profession is in the public spotlight like never before. The public domain abounds with allegations of high-rolling GPs, operative scandal and 'dirty' hospitals. Pick up any newspaper, magazine or television remote control, and the chances are high that you will see healthcare professionals vilified for their inaction, complacency and even culpability towards hospital-acquired infections.

In the media we repeatedly see politicians, managers and even the occasional doctor gowning, scrubbing and gloving up to prevent infections such as meticillin-resistant *Staphylococcus aureus* (MRSA) and *Clostridium difficile*. However, we are yet to see Messrs Brown and Johnson don a pair of 'sexy stockings' and suffer a 'sharp scratch now' in the abdomen in a crusade to raise awareness of a condition which kills 25 times more people than MRSA (House of Commons Health Committee, 2005) and eight times more people than road traffic accidents (Department for Transport, 2006).

When was the last time you saw a news item about a patient suffering a pulmonary embolism who had not been prescribed thromboembolic disease stockings and low molecular weight heparin? When, however, was the last time you saw this occurrence in your area of practice? The discrepancy is ominous. This is why the authors feel that venous thromboembolism prophylaxis, or rather lack thereof, may be the next 'big thing' in the media.

Yet while we are used to media assaults on the medical profession, many of these are unduly partisan, with perhaps more than a hint of headline-friendly hyperbole. Not so with venous thromboembolism prophylaxis: this is an eminently preventable cause of death which is all too frequently forgotten.

The reason that nosocomial infections and 'super bugs' understandably occupy a podium spot at the fore of populist medicine is that they have the potential to affect any patient walking through the hospital doors. Deep vein thrombosis and pulmonary embolism have long been known to have the same devastating potential, yet a fraction of the time, consideration and resources are allocated to them.

The problem

Venous thromboembolism (the blockage of a blood vessel by a thrombus dislodged from its site of origin) predominantly originates from the deep venous system of the lower limbs. Rudolph Virchow, the 19th century German pathologist, described three main factors contributing to this in his eponymous triad: alterations in the flow of blood and its coagulation potential, and injuries to the vascular endothelium.

The average hospital patient faces a plethora of risk factors, raising his/her risk of venous thromboembolism and subsequent morbidity and mortality and making it all the more important to use prophylaxis. These factors include immobility, age, malignancy, cardiac or respiratory failure, acute medical illness or severe infection, personal and family history of venous thromboembolism, and thrombophilias.

The scale of the problem

According to the National Institute for Health and Clinical Excellence (2007), 25 000 people die every year in England alone from venous thromboembolism. In the guise of pulmonary embolism, venous thromboembolism has been shown to cause up to 1% of all hospital deaths, and contribute to up to 10% (Sandler and Martin, 1989; Cohen and Alikhan, 2001). Furthermore, 20% of general surgical and medical patients and 40% of their orthopaedic counterparts will suffer a deep vein thrombosis without prophylaxis (Mismetti et al, 2000; National Institute for Health and Clinical Excellence, 2007). Surely it is only a matter of time before a high-profile case of a preventable pulmonary embolism emerges and triggers a public outcry, forcing us to act? This is despite years of accumulating evidence mandating action; so why are we waiting when the solution to the problem, and therefore culpability, rests with us?

The evidence-based solution to the problem

While it is vital to treat the underlying condition, the risk of venous thromboembolism can be reduced simply and effectively mechanically by thromboembolic disease stockings, and pharmacologically by low molecular weight heparin, in conjunction with encouraging patients to remain as mobile as possible. The evidence is out there: simple provision of thromboembolic disease stockings or low molecular weight heparin alone reduces risk of venous thromboembolism by 51% and 63% respectively (Samama et al, 1999; National Institute for Health and Clinical Excellence, 2007).

The National Institute for Health and Clinical Excellence (2007) guidelines explicitly state the indications and contra-indications to both mechanical and pharmacological prophylaxis, and yet disturbingly library shelves continue to overflow with literature lamenting the under-prescription of prophylaxis. The most recent example is the international and multicentre ENDORSE study, which found that worldwide the chance of a surgical patient receiving appropriate prophylaxis was 58.8%, while that of a medical patient was a mere 39.5% (Cohen et al, 2008). With such good evidence to work with, appropriately prescribing prophylaxis has to become a routine part of our practice;

not to do so is indefensible. Imagine a situation whereby a cheap and proven pill could halve the risk of MRSA, yet was routinely overlooked and forgotten by doctors; the resultant media cacophony would be devastating.

A culture change

Nowadays, you can hardly negotiate your way around the hospital without being told to roll your sleeves up, burn your tie, and hose yourself down on ward rounds to prevent transmission of infections. Numerous infection control initiatives have been effectively rolled out and enforced nationally, despite the dearth of evidence behind them. The authors would advocate a similar simple approach to the evidence-based prevention of venous thromboembolism, which could result in prevention becoming automatic rather than an afterthought, and its importance more widely appreciated.

Perhaps the under-prescription of venous thromboembolism prophylaxis is partly a result of the emphasis in hospital medical culture on cure rather than prevention? As admitting doctors it is easy to focus on the presenting complaint, and neglect to prevent those problems just round the corner. Medical practice is driven by stringent evidence and guidelines, and has a culture founded on safeguards. Patients are now routinely screened for MRSA, yet you might sometimes be hard pushed to find a clerking doctor who automatically assesses, and addresses, venous thromboembolism risk.

Future approaches

So why aren't doctors doing this? From the authors' experience, minimal emphasis is placed on this topic in both undergraduate and postgraduate education. This is hugely disproportionate to the morbidity and mortality it causes. Constant reminders in the admission unit, the ward and the lecture theatre would help drive a cultural and paradigm shift. The scope for ancillary initiatives to help enact this shift is impressive; we have infection control nurses, so why not venous thromboembolism nurses? We have cautionary antibiotic stickers on our prescriptions, so why not thromboembolic disease stockings and low molecular weight heparin stickers? We have omnipresent hand washing posters, so why not venous thromboembolism posters?

If we can harness some of the resources, initiatives and drive behind the infection control movement not only will the medical profession be acting in the best interests of its patients, but it may also ward off a further damaging assault on its public credibility. Such a venous thromboembolism drive is undoubtedly in the best interests of all. BJHM

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KEY POINTS

- Venous thromboembolism continues to be a major, yet often preventable, cause of pan-specialty morbidity and mortality.
- Adequate venous thromboembolism prophylaxis, despite a conclusive evidence base, continues to be routinely overlooked with patients placed at risk.
- Is it not only a matter of time before a preventable death as a result of pulmonary embolism hits the headlines?
- Can the medical profession withstand revelations that we are complacent towards, and culpable for, deaths caused by venous thromboembolism?
- The infection control drive provides an excellent model for a successful venous thromboembolism drive.

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