

## Editorial

# Venous Thromboembolism (VTE) in Orthopedic Procedures – Introduction of International Consensus Meeting for VTE

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Patients undergoing orthopedic procedures have been identified to be at increased risk of venous thromboembolism (VTE). However, orthopedic procedures do not have the same profile risk for VTE as such risk is influenced by the complex interaction between patient-related factors, the nature of injuries, and the extent of orthopedic intervention or resulting immobility.<sup>1</sup> Procedure-wise, total hip arthroplasty (THA), total knee arthroplasty (TKA), open reduction and internal fixation of hip fracture, and major trauma surgery have the highest risks for VTE.

Genetics has been recognized as a strong predisposing factor for VTE especially the 5 classic inherited thrombophilia including protein C deficiency, protein S deficiency, antithrombin deficiency, Factor V Leiden, and prothrombin G20210A.<sup>2,3</sup> Administration of tranexamic acid (TXA) to the patient undergoing orthopedic procedure does not increase the risk of developing subsequent VTE in patients with/without prior VTE history. TXA administration has been shown to decrease blood loss without increasing VTE risk, as shown by previous meta-analyses.<sup>4,5</sup>

Regarding VTE prophylaxis in major orthopedic surgery especially THA and TKA, aspirin has re-emerged as the new “trend” due to its cost-effectiveness. In terms of clinical effectiveness and safety profile, several meta-analysis studies have shown that aspirin did not differ significantly from other anticoagulants used for VTE prophylaxis namely low-molecular-weight heparin and rivaroxaban.<sup>6</sup> Aspirin also has a less aggressive anticoagulation profile that may decrease the risk of wound-related problems following surgery. Raphael and Parvizi showed that aspirin can reduce VTE incidence to 0.3% while having a 0.5% incidence of bleeding following arthroplasty surgery.<sup>7</sup>

Following major orthopedic surgery, these VTE prophylaxis agents should be continued for 14 – 35 days after surgery.<sup>1</sup> Regardless of the type of pharmacological

prophylaxis agents used, mechanical prophylaxis (e.g. intermittent compression devices, foot pump, compression stockinette), and early ambulation remained one of the key factors in reducing the risk of VTE complication following major orthopedic surgery.

Many publications include guidelines by various organizations around the globe related to the issue of VTE in orthopedics. However, some of them are contradictory and may be confusing for us. Therefore, a couple of months ago, the international consensus meeting addressed this issue and published a comprehensive VTE in orthopedic guidelines with delegates from 135 international societies and 68 countries, including Indonesia. Quoting Marc Swiontkowski and Javad Parvizi, we believe that this great effort on the part of so many will serve the needs of clinicians, and, more importantly, the patients we serve, in the near term as we continue to support efforts to develop primary research data for VTE.<sup>8</sup>

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<https://doi.org/10.31282/joti.v5n1.84>

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