Venous Thromboembolism in Post-Operative Neurosurgical Patients: An Institutional Experience

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Disclosures

• The authors have no disclosures to report
Introduction

Prevention of post-operative venous thromboembolism (VTE) in neurosurgical patients is a priority and generally effected through a combination of mechanical and chemical prophylaxis. This purpose of this study was to demonstrate the incidence of VTE in a homogenous patient population at a single-institution employing a standard prophylactic regimen with appropriate monitoring for VTE.
Methods

A retrospective review of a prospectively maintained database of patients undergoing a cranial neurosurgical procedure between August 2016 to July 2017 was conducted. Patients were identified using neurosurgery-specific diagnosis related group (DRG) analysis at our institution. The total incidence of DVT/PE during this time period were identified along with the incidence of DVT/PE for operative neuro-oncology patients. Subsequently, a detailed chart review of these patients was completed.
Results

There were 329 patients from August 2016-July 2017 under the specific cranial DRGs. Of these patients, a total of 4 patients had DVT/PE. The incidence of DVT/PE was 1.22%. Furthermore, there were a 162 neuro-oncology patients with a 0.62% incidence of DVE/PE. A closer review of the cases of VTE identified gaps in documentation, inconsistencies in dosing of subcutaneous heparin, and variability in timing of physician VTE prophylaxis orders.
Discussion

This study demonstrated that incidence of DVT/PE in the neurosurgical population at this institution was low. Nevertheless, several areas of improvement were identified upon closer review of the patient data. Namely, non-pharmacological methods of VTE prevention should be better documented such as ambulation orders and sequential compression device use. Moreover, it would be beneficial to have a more standardized dosing and timing of pharmacologic prophylaxis. This study re-demonstrates the complex and multifactorial issues that lead to optimal VTE prophylaxis.
Summary Points

• Prevention of post-operative VTE in neurosurgical patients is a priority
• This is a retrospective review of a prospectively maintained database of patients at a single neurosurgical department
• This study demonstrated that incidence of DVT/PE in the neurosurgical population at this institution was low
• Re-demonstrates the complex and multifactorial issues that lead to optimal VTE prophylaxis