Deep-vein thrombosis epidemiology

- Predictors of pulmonary embolism in adult patients following neurosurgery: a Chinese single-center, retrospective study
- Symptomatic venous thromboembolism after transsphenoidal surgery in Cushing's disease: incidence and risk factors
- Validating Khorana Risk Score in gastric cancer patients on immune checkpoint inhibitors and chemotherapy
- Two decades of trends in nontraumatic intracerebral hemorrhage care: A nationwide analysis
- Relationship between Tranexamic Acid Use and Safety in Patients with Acute Brain Injury: A Systematic Review and Meta-analysis of Mortality and Thromboembolic Events
- Intermittent compression devices as antithrombotic strategy in neurosurgical interventions: a prospective randomized controlled trial (Trial In Prevention of Post-Operative ThromboEmbolic Events)
- Assessing the impact of perioperative allogenic blood transfusion in spinal surgery: a comprehensive systematic review, meta-analysis, and meta-regression analysis
- Comprehensive DVT risk assessment model for meningioma surgery: development, validation and clinical implementation

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Its epidemiology varies by region, population, and risk factors. Here are some key epidemiological factors related to DVT:

Incidence and Prevalence:

DVT is relatively common, with an estimated annual incidence of 1 to 2 cases per 1,000 individuals in the general population. The prevalence of DVT increases with age, and it is more common in older adults. The incidence of DVT tends to be higher in developed countries compared to developing nations. Age and Gender:

DVT is more common in older individuals. The risk increases with each decade of life. In general, DVT is slightly more common in women than in men, but the difference is not substantial. Risk Factors:

Several risk factors can increase the likelihood of developing DVT. These include surgery, prolonged immobilization, trauma, obesity, cancer, pregnancy, hormone replacement therapy, and a history of previous DVT or family history of blood clots. Inherited genetic factors, such as Factor V Leiden mutation or prothrombin gene mutation, can also increase the risk of DVT. Hospital-Acquired DVT:

DVT acquired during or after hospitalization is a significant concern. It can develop in patients who are bedridden, have undergone surgery, or have medical conditions that increase the risk of clot formation. Hospitals often have protocols in place to assess and reduce the risk of hospital-acquired DVT. Pulmonary Embolism (PE):

DVT can lead to pulmonary embolism if a clot breaks free from a deep vein and travels to the lungs. PE is a potentially life-threatening complication of DVT, and it is important to diagnose and manage DVT to prevent PE. Geographic Variation:

The prevalence of DVT may vary by geographic region and ethnicity. Some studies have suggested higher rates of DVT in Western countries compared to Asian countries, for example. Awareness and Education:

Awareness campaigns and education about the signs and symptoms of DVT can lead to earlier diagnosis and treatment, potentially reducing the risk of complications. Prophylaxis:

Prophylactic measures, such as those mentioned in the previous response (early mobilization, compression stockings, anticoagulant medications), are essential in preventing DVT in high-risk populations, such as surgical patients. Long-Term Complications:

DVT can have long-term complications, such as post-thrombotic syndrome, which may develop in some individuals who have had DVT. This syndrome can cause pain, swelling, and skin changes in the affected limb. Understanding the epidemiology of DVT is crucial for healthcare professionals to identify high-risk individuals and implement appropriate preventive measures and treatments. Additionally, public awareness and education about DVT risk factors and symptoms can help individuals seek medical attention promptly if they suspect they have DVT, potentially preventing serious complications like pulmonary embolism.

An average incidence of Deep-vein thrombosis of 24 percent was found among 474 untreated control neurosurgical patients [1].

However, based on the current literature, the incidence of Deep-vein thrombosis varies in patients with different diseases. For example, the incidence of Deep-vein thrombosis is 1.5–18% and 32% in patients with a subarachnoid hemorrhage and in patients with a brain tumor, respectively [2] [3].

In addition, the incidence of Deep-vein thrombosis after craniotomy has been reported to be as high as 50%, and using a threshold of 2 mg/L, D-dimer levels indicate venous thromboembolism with a high degree of sensitivity and specificity in patients who have undergone craniotomy [4].

In a study lower extremity Deep-vein thrombosis was a common complication following craniotomy in the enrolled Chinese neurosurgical patients. Multiple factors were identified as predictive of Deep-vein thrombosis in neurosurgical patients, including the presence of a tumor, an age greater than 50 years, hypertension, and immobility [5].

Taniguchi et al. reported an incidence of PE in neurosurgical patients with Deep-vein thrombosis of 60% [6] moreover, Deep-vein thrombosis may lead to a PE, which is lethal in up to 50% of affected neurosurgical patients [7] [8].

The rate of lower extremity Deep-vein thrombosis after neurosurgery was 31.1% in the series of Guo et al [9].

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