Risk Assessment For Thrombosis Prophylaxis In Vascular Surgery: Necessary Or Nuisance

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I do not anticipate discussing the unapproved/investigative use of a commercial product/device during this presentation.

Disclosures
- Janssen R&D - Steering Committee
- Pfizer - Bleeding Advisory Board
- BMS - Advisory Board
- Recovery Force – Consultant
- Alexion Pharmaceuticals – Advisory Board

In-hospital And Post-discharge Venous Thromboembolism After Vascular Surgery
- Total patients =45,548
  - Carotid endarterectomy (CEA) - 20,785 patients
  - Open thoracoabdominal aortic aneurysm (TAAA) – 361 patients
  - Thoracic endovascular aortic repair (TEVAR) – 732 patients
  - Open abdominal aortic (OAA) - 6195
  - Endovascular aneurysm repair (EVAR) – 7361 patients
  - Infragenicular bypass graft (BPG) - 10,114

Postoperative VTE is associated with the type of vascular procedure
- Highest after operations in the chest and abdomen/pelvis
- About 40% of VTE events diagnosed after discharge
- VTE patients expierenced a quadrupled mortality
- Presence of comorbidities increased the VTE rate
Individual Risk Assessment Is The Key To Providing The Appropriate Thrombosis Prophylaxis

Have The Patient Complete The Form
Form Checked By The Person Responsible for The Preoperative H & P
Completing The Form In The Holding Area Is A BAD Idea

If You Fail To Carefully Interrogate Your Patients Regarding Family History of Venous Thromboembolism Sooner Or Later You May Be Faced With A Fatal PE

Familial Risk of Venous Thromboembolism in Relatives*

- This study shows an increased VTE risk among not only first-degree relatives but also second- and third-degree relatives and non-biologic relatives
  - The genetic component of the familial clustering of VTE is strong
  - Family history is potentially useful for clinical VTE risk assessment, even in second- and third-degree relatives.

The Value Of Family History As A Risk Indicator For Venous Thrombosis In A Patient Without A Personal History Of VTE

- Relative risk of thrombosis increased with the number of risk factors identified
  - A combination of a genetic and acquired risk factor resulted in a risk 60-fold higher than for those with no known risk factor and a negative family history
  - Study showed a positive family history increased the risk of venous thrombosis more than 2-fold, regardless of the risk factors precipitating the thrombosis

Fuentes HE, et al; TH Open 2017;1:e106–e112

National Surgical Quality Improvement Program (NSQIP)

The database has no information on history or family history of VTE, use of perioperative VTE prophylaxis, intraoperative anticoagulation, or perioperative use of antiplatelet agents.

Finally, due to lack of routine screening for VTE, the incidence of VTE may be underestimated in the NSQIP database, which only makes the need for further study of this problem more pressing.

This is an important consideration because recent data indicate that two-thirds of the patients found to have DVT during screening after vascular operations have no signs or symptoms of the problem.


Validation of a Patient-Completed Caprini Risk Score for Venous Thromboembolism Risk Assessment

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**Suggested Schema**

<table>
<thead>
<tr>
<th>Risk</th>
<th>Caprini Score</th>
<th>Prophylaxis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>1-4</td>
<td>Pneumatic Compression*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate</td>
<td>5-8</td>
<td>Pneumatic Compression** + LMWH 1-10 days</td>
</tr>
<tr>
<td>High</td>
<td>9+</td>
<td>Pneumatic Compression* + LMWH 28 days</td>
</tr>
</tbody>
</table>

*Based On The Boston University Model

*During Hospitalization