THROMBOPROPHYLAXIS IN LONG-TERM CARE PATIENTS

Limited data is available for guiding healthcare professionals as it pertains to thromboprophylaxis in long-term care patients. The data that is available for thromboprophylaxis often comes from trials that used acutely ill, hospitalized patients who only received a short (i.e., 7- to 10-day) course of anticoagulants. Additionally, the well-accepted guidelines from the American College of Chest Physicians make no specific recommendations towards patients in long-term care facilities. This issue of CLIPS briefly reviews an article that addresses the lack of guidelines for thromboprophylaxis in long-term care patients, and offers a basic set of recommendations for venous thromboembolism (VTE) prophylaxis for patients in long-term care facilities. If you need further information, please contact the Samford University Drug Information Service at (205) 726-2659.


What Data Supports Thromboprophylaxis in Long-Term Care Patients?

- Prolonged bed rest (>14 days) is the strongest independent risk factor for symptomatic VTE.
- Currently, there has been little attention given to thromboprophylaxis in long-term care facilities. The majority of trials that have dealt with thromboprophylaxis have been conducted in the hospital setting with acutely ill patients.
- As the elderly population continues to grow, the concern of venous VTE in long-term care facilities continues to grow as well.
- Approximately 8% of cases of pulmonary embolism and 10% of cases of deep venous thrombosis in the elderly occur in nursing home residents.
- In an autopsy study, 8% of 234 long-term care patients died secondary to undiagnosed pulmonary embolism. An additional 40% of patients in the same cohort had undiagnosed, non-fatal pulmonary embolism.
- Because the baseline risk of VTE in patients with chronic conditions in long-term care facilities is unknown, healthcare professionals must rely on guidelines that were developed for acutely ill patients.
- The baseline risk of VTE should be regularly assessed prior to anticoagulation therapy since anticoagulation is associated with a bleeding risk.
- Recommendations about thromboprophylaxis in long-term care patients must be used with caution because they were based on indirect evidence from other patient groups.

Options for Thromboprophylaxis in Long-Term Care Patients

- Low-molecular-weight heparin (LMWH)
  - Popular for its predictable pharmacokinetic properties and convenient prefilled syringes, and its ability to be given once daily.
  - These agents are primarily cleared by the kidney, so renal function must be taken into account when dosing.
  - Typical dosing (dosing may vary depending on renal function and other factors):
    - Enoxaparin (Lovenox) 40 mg subcutaneously daily
    - Dalteparin (Fragmin) 5,000 IU subcutaneously daily
    - Tinzaparin (Innohep) 75 IU/kg (or 4,500) subcutaneously daily
- Unfractionated heparin
  - Primarily cleared via nonrenal mechanisms, and therefore a likely safer choice for patients with severe renal insufficiency.
  - Possibility for thrombocytopenia.
    - Typical dosing: 5,000 IU subcutaneously two or three times a day

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• Fondaparinux (Arixtra)
  o A newer anticoagulant, that works via indirect inhibition of factor Xa.
  o Once daily dosing.
  o Anticoagulant of choice for patients at risk for heparin induced thrombocytopenia.
  o Contraindicated in patients with ClCr < 30 mL/min and/or total body weight < 50 kg.
    ▪ Typical dosing: 2.5 mg subcutaneously daily

• Mechanical prophylaxis
  o Graduated or elastic compression stockings and intermittent pneumatic compression devices are deemed effective in surgical patients.
  o Improperly fitted stockings can be uncomfortable to wear, and can place patients at a higher risk for developing skin breaks, ulcers, blisters, or necrosis.
  o Because the role of mechanical prophylaxis is unclear in the long-term care setting, patients should have a compelling reason to utilize them such as a contraindication to pharmacologic anticoagulants.

Recommendations for Thromboprophylaxis in Long-Term Care
• General risk factors for venous thromboembolism (VTE) must be used as a guide for therapeutic decisions as no validated risk-assessment model is available for the long-term care population.
• All new residents should be assessed for VTE risk factors and should be reassessed if health status changes.
• Potential risk factors for venous thromboembolism in long-term care residents include:

<table>
<thead>
<tr>
<th>Age &gt; 75 years</th>
<th>Congestive heart failure</th>
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<tr>
<td>Decreased mobility (unable to walk without assistance)</td>
<td>Chronic obstructive or interstitial lung disease</td>
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<tr>
<td>Previous venous thromboembolism</td>
<td>Severe inflammatory disease</td>
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<tr>
<td>Recent hospitalization for surgery or other illness</td>
<td>Active cancer</td>
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<tr>
<td>Ischemic stroke</td>
<td>Severe infectious disease</td>
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• Patients should receive thromboprophylaxis if impaired mobility and one of the following conditions are present:
  o An acute exacerbation of congestive heart failure or COPD
  o Acute infection
  o An acute exacerbation of an inflammatory disease
  o Active cancer or patient is receiving chemotherapy or radiation therapy
  o Immobility and prior VTE

• Patients should not receive thromboprophylaxis under the following situations:
  o Chronic but stable cardiorespiratory disease
  o Chronic but stable infectious or inflammatory disease
  o Terminal cancer with very limited life expectancy
  o Any contraindication to anticoagulants

Conclusion
• Currently there are no clinical practice guidelines or clear indications and contraindications for thromboprophylaxis in long-term care patients. Despite the lack of guidelines, healthcare professionals must identify those long-term care patients at risk for VTE and assess their benefit-to-risk ratio for thromboprophylaxis.

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