the generEMlist
105 CCFP Topics Podcast

DVT Summary Notes

In patients complaining of leg pain and/or swelling, evaluate the likelihood of DVT as investigation and treatment should differ according to risk

- **Only 10% of suspected cases end up being DVTs**
- Wells score
  - Three-tier form: low, moderate, high likelihood
  - Two-tier form: unlikely, likely
    - Used by Thrombosis Canada
    - 0 or one point: unlikely
      - 6% chance of DVT
      - Do a D-dimer
        - If positive->compressive ultrasound study
        - If negative-> focus on other differentials
    - 2+ points: likely
      - 28% chance of DVT
      - Do compressive ultrasound
        - If positive-> DVT
        - If negative-> do a D-dimer
          - If negative-> no DVT
          - If positive: repeat compressive ultrasound
    - Note: alternate diagnosis that is more or just as likely subtracts two points

Wells Score for DVT Diagnosis

Clinical findings	Points
Paralysis, paresis or recent orthopedic casting of lower extremity	1
Bedridden >3 days recently or major surgery within past 12 weeks	1
Localized tenderness of the deep veins	1
Swelling of entire leg	1
Calf swelling 3 cm greater than other leg (measured 10 cm below the tibial tuberosity)	1
Pitting edema greater in the symptomatic leg	1
Non-varicose collateral superficial veins	1
Active cancer or cancer treated within 6 months	1
Previously documented DVT	1
Alternative diagnosis at least as likely as DVT (Baker's cyst, cellulitis, muscle damage, superficial vein thrombosis, post-thrombotic syndrome, inguinal lymphadenopathy, extrinsic venous compression)	-2

In patients with high probability for thrombotic disease (e.g. extensive leg clot, suspected pulmonary embolism), start anticoagulant therapy if tests will be delayed

- If compressive ultrasound takes more than 4 hours, should start anticoagulation for any patients likely of having DVT
- Anticoagulants to use:
  - DOAC
    - Easy and convenient
  - LMWH bridging to Warfarin
    - Cheaper

the generEAList
105 CCFP Topics Podcast

Identify patients likely to benefit from DVT prophylaxis

Hospitalized Medical Patients

- Risk factors
  - Age >70
  - Previous VTE
  - Immobility for 3+ days
  - Stroke
  - Acute spinal cord injury
  - Active cancer
  - Known thrombophilia
  - Sepsis
  - Acute inflammatory conditions
  - Acute infectious disease
  - Obesity (BMI>30)
  - Hormone therapy
  - ICU admission
  - Cardiac or respiratory failure
- Balance with risk of bleeding
  - Active gastroduodenal ulcer
  - Previous bleed in past 3 months
  - Advanced age
  - Severe renal failure (<30mL/min)
  - Hepatic failure
  - Active cancer
  - Platelet count <50 x10^9/L

Non-orthopaedic surgical patients

- For average bleed risk: start prophylaxis within 12 hours of completion of surgery for most elective non-orthopaedic surgical patients for whom thromboprophylaxis is indicated
- For higher risk of VTE: thromboprophylaxis should be continued at least until discharge from hospital for up to 30 days in select patients

Utilize Investigations for DVT allowing for their limitations

Physical exam

- Not always the most accurate!

D-dimer

- Sensitive but not specific
- Many things can increase D-dimer
  - Some examples
    - Inflammatory disease
    - Cancer
    - Pregnancy
    - Recent surgery
    - Hospitalization
    - Trauma
    - Older age
- D-dimers are great for ruling out a VTE but not so great at ruling in

Compressive ultrasound

- In lower limb, use popliteal and femoral veins
- Can try to identify clot and also try to collapse the vein
  - Normal veins should collapse easily
- Note: selective area
  - If there is still clinicals suspicion of DVT should get a D-dimer
    - If positive: repeat study in 5-7 days or request whole leg study

Consider the possibility of an underlying coagulopathy in patients with DVT, especially when unexpected

- Provoking causes
  - Venous trauma
  - Immobility
  - Physiologic causes
- Unprovoked
  - Refer to hematologist or thrombosis clinic

In patients with DVT, use oral anticoagulation appropriately

<table>
<tr><th>Class</th><th>Notes</th><th>Dosing</th></tr>
<tr><td>DOAC</td><td>-Easy to administer
-No lab monitoring
-Lower risk of bleeding
-Some are used as monotherapy, others need a course of LMWH prior to initiation
-Caution with renal function less than 30mL/min
-Contraindicated in pregnancy</td><td>Abixiban (Eliquis)
• 10mg PO BID 7 days and then 5 mg PO BID for rest of treatment period
Rivaroxabon (Xarelto)
• 15 mg PO BID 21 days and then 20mg PO once daily for rest of treatment period</td></tr>
<tr><td>LMWH</td><td>-Monotherapy
-Good for patients with active cancer and those who are pregnant
-Education on self injection needed
-Most often used in conjunction with Warfarin for at least the first five days, until the INR is ≥2 for two consecutive days
-Caution with renal function less than 30mL/min</td><td>Tinzaparin
• 175 units/kg SC daily
Enoxaparin
• 1.5mg/kg SC daily or 1mg/kg BID
Dalteparin
• 200 units/kg SC daily
• 100 units/kid SC BID for patients over 100 kg</td></tr>
<tr><td>Unfractionated Heparin</td><td>-Only used in specific cases
1. Patients with severe renal insufficiency
2. Patients with high bleed risk
3. Patients who develop DVT shortly after receiving thrombolytic therapy</td><td>IV
• IV bolus 5000 units or 80 units/kg
• Then infusion of 18-20 units/kg/hour
• Targeting an aPTT or antiXa level per hospital policy
Subcutaneous
• 333units/kg initially
• Then 250 units/kg BID
• Note: does not require aPTT monitoring/targeting</td></tr>
<tr><td>Warfarin</td><td>-Requires concurrent treatment with LMWH to bridge (usually at least 5 days)</td><td>Warfarin
5 mg/once daily initially
2-3 mg/day if elderly, frail or low body weight
7.5-10 mg/day if young, healthy or larger
INR before 4th dose
<table>
<tr><th>INR</th><th>Dose</th></tr>
<tr><td>>1.5</td><td>Increase from 5 mg to 7.5-10 mg/daily and check again in 2-3 days</td></tr>
<tr><td>1.5-1.9</td><td>Continue 5 mg/day and check again in 2-3 days</td></tr>
<tr><td>2-3</td><td>Drop to 2.5 mg daily and check again in 2-3 days</td></tr>
<tr><td>3.1-4</td><td>Drop to 1.25 mg daily and check in 2-3 days</td></tr>
<tr><td>>4</td><td>Hold until INR <3</td></tr>
</table></td></tr>
</table>