Guidelines for Anticoagulation in Adult Patients with COVID-19

BACKGROUND: COVID-19 patients with severe infection demonstrate a hypercoagulable profile. The recommendations below provide guidance, and are not intended to substitute clinical judgement. Optimal anticoagulant dosing for VTE prevention/treatment in COVID-19 patients is unknown. Patients on dual or single anti-platelet therapy should also be on chemical DVT prophylaxis.

STANDARD PROPHYLAXIS ALL PATIENTS: ALL hospitalized, floor and ICU patients with COVID-19 WITHOUT known thrombus and platelets greater than 25,000 should receive prophylactic doses of anticoagulation to prevent venous thromboembolism. If anticoagulation is contraindicated, we recommend therapy with sequential compression devices. There is insufficient data to consider elevated dose prophylaxis in this population.

<table>
<thead>
<tr>
<th>Standard DVT Prophylaxis</th>
<th>Patients with BMI greater than 40 kg/m²</th>
<th>Low body weight patients (&lt; 50 kg)</th>
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<tbody>
<tr>
<td>CrCl ≥ 30 mL/min, Enoxaparin (Lovenox) 40 mg SubQ daily OR Heparin 5,000 units SubQ daily OR Fondaparinux (Arixtra) 2.5 mg SubQ daily CrCl &gt; 30 ml/min</td>
<td>CrCl ≥ 30 mL/min, Enoxaparin (Lovenox) 40 mg SubQ BID OR Heparin 7,500 units SubQ every 8 hrs OR Fondaparinux (Arixtra) 2.5 mg SubQ every 8 hours CrCl &gt; 30 ml/min</td>
<td>CrCl ≥ 30 mL/min, Enoxaparin (Lovenox) 40 mg SubQ daily OR Heparin 5,000 units SubQ every 8 or 12 hours</td>
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THERAPEUTIC DOSING: For patients with confirmed VTE or suspected VTE (signs of organ failure, D-Dimer > 3 mcg/mL (6XUNL) AND persistent clotting of lines/devices/filters despite VTE prophylaxis and worsening clinical course, intensified anticoagulation may be considered via multidisciplinary discussion. Consider patient specific risks and benefits. Initiation of anticoagulation without confirmed or high suspicion of DVT/PE is controversial and is not recommended.

<table>
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<th>Anticoagulation: Therapeutic Dose</th>
<th>Notes</th>
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<tr>
<td>CrCl ≥ 30 mL/min, Enoxaparin 1 mg/kg SubQ every 12 hours OR Heparin drip, per entity approved protocol</td>
<td>1. Routine monitoring is not recommended for enoxaparin, but if concern for bleeding or worsening coagulopathy, may monitor anti-Xa levels (if available) as needed (draw 4 hours post 3rd dose) with goal 0.6 - 1 units/mL. 2. If patient has a heparin allergy, consult with Hematology</td>
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Patients receiving chronic anticoagulation
For patients with moderate or severe COVID-19 on chronic therapeutic anticoagulation, continue full dose therapy. Monitor and screen for DIC and for patients who develop suspected or confirmed DIC without overt bleeding,
  a. Review the indication for anticoagulation and weigh it against the risk of bleeding when making clinical decisions regarding dose adjustments or discontinuation.
  b. Consider reducing the intensity of anticoagulation in this clinical circumstance, unless the risk of thrombosis is exceedingly high.

Patients receiving dual antiplatelet therapy
For patients with moderate or severe COVID-19 and an indication for dual antiplatelet therapy (e.g., percutaneous coronary intervention [PCI] within the past 3 months or recent myocardial infarction [MI]) and with suspected or confirmed DIC without overt bleeding, in the absence of evidence, decisions for antiplatelet therapy need to be individualized. In general, it is reasonable to:
  a. Continue dual antiplatelet therapy if platelet count is ≥ 50,000,
  b. Reduce to single antiplatelet therapy if platelet count is ≥ 25,000 and < 50,000
  c. Discontinue if platelets are < 25,000.

NOTE: These guidelines may be revised upward or downward depending on the individualized relative risk of thrombotic complications versus bleeding.
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References