

COVID and Anticoagulation Approaches- Resource Document

Background: Recent experiences from Wuhan and Europe have shown that COVID 19 may result in higher VTE risks and a hypercoagulable state with possible strokes in younger patients.

Caution 1: Data are from moderate to severely sick patients,

Caution 2: Data are from hospitalized patients ONLY

Caution 3: Many NH patients are frail with high risk of bleeding and risk to benefit ratio MUST be studied and DOCUMENTED before treatment is started. Treat only for a limited duration (See suggestions below)

A. Key points:

- a. COVID results in a hypercoagulable / thrombotic state
- b. Risk is higher in hospital and ICU patients but exact rates are not known
- c. Severe COVID may also result in increased fibrinogen and increased risk of bleeding
- d. Hospitalized patients may need tests such as D-dimer, PTT, aPTT but INR is not helpful
- e. D-dimer levels may correlate with mortality in severe COVID in-hospital patients
- f. D-dimer levels ONLY should not be used to order imaging for VTE (DVT, PE etc.) but history and exam should guide testing for VTE
- g. COVID patients that are hospitalized have an added risk of VTE and many VTE events happen even with VTE prophylactic dosing

B. Therapeutic Options

- a. All hospitalized patients reviewed for VTE prophylaxis; once or twice a day Rx to decrease infection spread
- b. VTE prophylaxis for post-hospital patients be considered
- c. Full dose AC to decrease stroke, microvascular thrombosis etc. be only used in context of clinical trials
- d. Long chain (unfractionated) heparin preferable because of their anti-inflammatory effects, while LMWH has less of an anti-inflammatory effect and DOACs have even less anti-inflammatory effect
- e. Should COVID patients receive post-discharge thromboprophylaxis? Possibly
(<https://www.hematology.org/covid-19/covid-19-and-vte-anticoagulation>)
 - Patients hospitalized for any acute medical illness are at increased risk for VTE for up to 90 days after discharge
 - Reasonable to consider extended thromboprophylaxis after discharge using a regulatory-approved regimen (e.g., rivaroxaban 10 mg daily for 31-39 days).
 - Any decision to use post-discharge thromboprophylaxis should consider the individual patient's VTE risk factors, including reduced mobility and bleeding risk as well as feasibility.
- f. Englewood hospital (New Jersey) approach to post-discharge patients with COVID:
 - Continue AC prophylaxis with either:
 - a. LMWH 40mg Q12 X 4 weeks (preferred if dc to rehab) OR
 - b. Apixaban 5mg BID X 1 week then 2.5mg BID X 3 weeks, OR
 - c. Rivaroxaban 20 mg daily X 1 week then 10 mg daily X 3 weeks,
 - i. If CrCl < 30 ml/min use LMWH (preferred) or Apixaban 2.5 mg BID X 4 weeks
 - If VTE diagnosis during hospitalization; continue full dose anticoagulation at least 3 months

References:

1. <https://www.acc.org/latest-in-cardiology/articles/2020/04/17/14/42/thrombosis-and-coronavirus-disease-2019-covid-19-faqs-for-current-practice> (April 22, 2020)
2. <https://www.medpagetoday.com/infectiousdisease/covid19/85865>
3. <https://clotconnect.wpcomstaging.com/2020/03/26/covid-19-and-coagulopathy-two-management-guidance-documents-for-health-care-professionals/>
4. <https://www.hematology.org/covid-19/covid-19-and-vte-anticoagulation>