Catheter-Directed Thrombolysis (CDT) for Deep Vein Thrombosis (DVT)

Arkansas Children's
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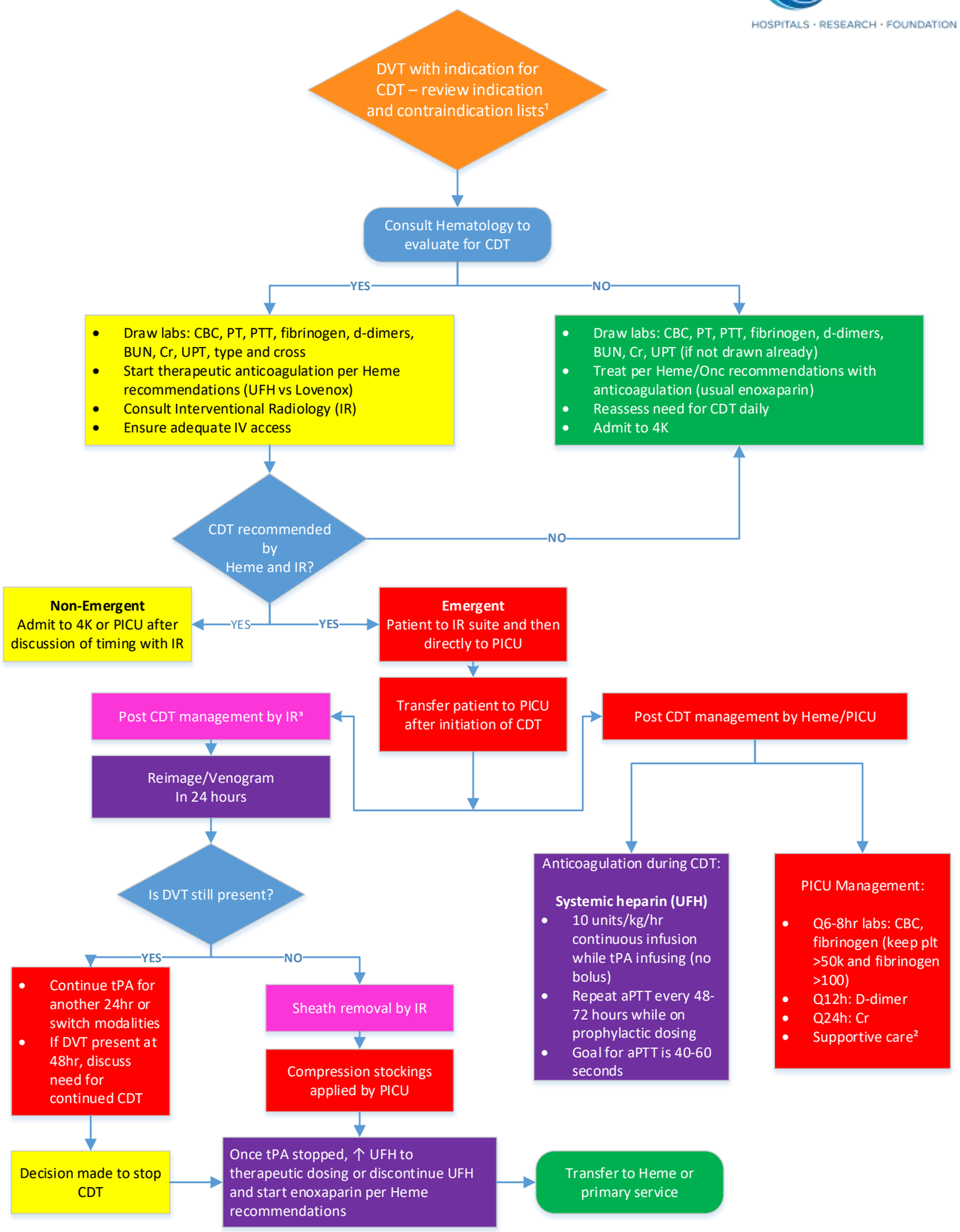

[1]Indications and Contraindications for CDT

Indications

Symptoms for < 2 weeks PLUS one of the following:

- Upper extremity DVT (not catheter-related), thoracic outlet syndrome or SVC syndrome
- May-Thurner syndrome (Left lower extremity DVT)
- Extensive DVT of lower extremity (IVC to femoral DVT)
- Life or limb threatening thrombosis
- Vascular compromise
- Massive pulmonary embolism (PE) (also consider systemic thrombolysis if any delay in CDT)
    - Sustained systemic hypotension (systolic blood pressure <90 mm Hg) for at least 15 minutes or which requires inotropic support
    - Which is not primarily due to another cause, such as left ventricular dysfunction, sepsis, hypovolemia or an arrhythmia
    - Pulselessness
    - Persistent and profound bradycardia
    - Defined by the presence of a heart rate <40 bpm associated with signs of end organ hypoperfusion
- No improvement after 24-48 hr of anticoagulation therapy

Contraindications

- Known tPA allergy
- Any active bleeding (patients will have oozing while receiving tPA at catheter sites, etc)
- Major general surgery within 7-14 days
- CNS ischemia/bleed/neurosurgical procedure within 10-14 days
- Invasive procedure within 3 days
- Seizures within 48h
- Recent, severe trauma
- Inability to correct severe coagulopathy: PTT >2x ULN or INR >1.5, platelet <50k, fibrinogen <100
- Careful consideration in premature infants, hypertension or other risk factors for bleeding

[2]Supportive Care during CDT

- Monitor closely for bleeding
- No IM injections, urinary catheterization, rectal temps, arterial punctures
- Avoid large dressings over line sites to ensure adequate line site checks
- Minimal patient manipulation (i.e. avoid physical therapy/CPT/bathing/weighing)
- Avoid concurrent use of coumadin, aspirin, other anti-platelet agents
- Neuro checks hourly
- Limb checks (pulses/Doppler/blood pressure) hourly if applicable
- Attention to symptoms suggestive of bleed (headache, mental status changes, abdominal pain/distension, hypotension or tachycardia, etc)
- Expect oozing from line/puncture sites, this is an indication that thrombolysis is occurring and NOT an indication to stop the TPA infusion. Consider topical thrombin/Amicar for mucocutaneous bleeding.
- Anticipate drop of 1-2 g/dl in hemoglobin and 20-50% decline in fibrinogen from baseline

Transfusion Parameters:

- Goal for fibrinogen is 20-50% decrease and d-dimer to rise with adequate therapy. If no change after 24h of tPA, consider transfusion of 10ml/kg FFP to replace plasminogen
- Neonates and infants may need FFP empirically prior to thrombolysis secondary to naturally low levels of plasminogen.
- Transfuse platelets if <50K
- Transfuse cryoprecipitate if fibrinogen <100

[3]Alteplase (tPA) dosing per IR

- Intraprocedural bolus: 0.6mg/kg (max 10mg)
- Drip: 0.03 -0.06 mg/kg/hr (max 24 mg per 24 hr)