Mechanical Thromectomy Techniques for Ilio-Femoral DVT
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My ground rules before considering MT/PMT

• Acute DVT- <3/52
• Popliteal vein open if you want to do it all in 2 hours- “Single Session”
• Patient can hold still
• Can use iodinated contrast
• Traditional contra-indications to CDT do not apply
What does single session therapy mean?

• Removal of thrombus and all ancillary steps within 3 hours
• Not transfer to a step down unit
• Not the start of catheter directed thrombolysis
Single session: ideal patient

• Age irrelevant if they can hold still for 2-3h
• Popliteal vein open
• Not short of breath
• Negative CTPA
• IVC normal
• No contra-indications to thrombolysis
• Leg was “normal” beforehand
Single-Session: time pressure

- If thrombolysis contra-indicated (Intracerebral bleed)
- If leg seriously threatened
Time pressure: severe painful phlegmasia- blisters developing
Factors to ignore

• Sheath size- venous- forget it
• Valvular damage (DVT destroys valves far more efficiently than you ever could)
• Cost- if less than the cost of 1 day in ICU then you are saving a lot of money.
• Risk of PE- if you get a PE it will only harm the patient if underlying RV dilatation/Pul Arterial Hypertension- nonetheless consider an IVC filter early in your experience
Devices

- Combination pulse spray thrombolysis plus negative pressure vortex aspiration
  - AngioJet/BSCI
- Manual “Squeezer- Retriever”
  - Inari Flow-triever/Clot-triever
- Aspiration
  - Small Bore
    - Lightning 12/Penumbra
    - JETI/Walk Vascular
  - Large Bore
    - AngioVac/AngioDynamics
- Rotational: Trerotola-
  - Arrow/PTD
  - Thrombolex/Bashir
- Protected rotational –
  - Straub Aspirex
  - VETEX Reven
Image taken at 24 hours; back to work in one week
Whichever device you use, in my experience; the effect is ALWAYS improved with an aspiration catheter.
If calf veins involved: posterior tibial vein access
Or criss cross technique- catheters going north and south
Post thrombus removal ESSENTIALS!!!!

• Overnight pneumatic compression boots
• Class II thigh high compression stockings
• Anticoagulation for 3 months
• Aim INR 2.5-3.5
• Colour Doppler US day one post op- ALWAYS! If CDUS is patent then boots off, stockings stay on; YOU walk patient to ward
• US at 30/90/180 days (ideally)
Contra-indications to CDT probably do not apply to PMT.....

So we will treat patients with:
Cancer
Recent Surgery
Recent Trauma etc etc
Applying these ground rules, and using these techniques, we can safely treat over 90% of 1F DVTs in less than 2 hours skin to skin.
Conclusions

• Single-Session Devices are here to stay
• Find one (or three) and become comfortable with each
• I prefer Mechanical Thrombectomy (MT) or Pharmaco-Mechanical Thrombectomy (PMT) unless there is extensive below knee DVT and/or extensive PE in which case CDT is better
• I always use an aspiration catheter after the MT device
• I personally do not treat DVT between 4/52 and 6/12
• After waiting 6/12 go straight to iliac venous stenting