Thrombus removal in acute and subacute thrombosis: How to achieve and the role of filter protection

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10:00am – 10:08am

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Efficient thrombus removal:

- Identify patients early
- Diagnose the proximal and distal extent
- Decide if you need a filter
- Single session v multi-session
- Use a big stent/ Stent from flow to flow
- Post op......
Identify patients early:

- Referral pathway
- Make friends with people who currently see patients with DVT
  - Vascular lab/Radiology Techs/Sonographers
  - Internal medicine
  - Emergency Department
  - Haematology
  - General Practitioners
  - Other hospitals
- Use imaging and history to try and separate acute from chronic - personally I have a NO TOUCH rule between 4/52 and 6/12
Diagnose the proximal and distal extent

- CTV
- MRV
- US is not adequate for PROXIMAL extent; but is the best for DISTAL extent
CTV is KEY
MRI acute thrombus
R popliteal vein
MRV v DSV acute thrombus subclavian vein
Decide if you need a filter?

- **General Medical Condition:**
  - PHx: CCF/COPD/SOB at rest
  - Ask yourself-do you think they could tolerate a large PE?
- **CTV**
  - IVC thrombus
- **CTPA**
  - Right Ventricular v Left Ventricular Size
  - Large PE load
- **Echo**
  - PAP >40mmHg
Single Session v Multi-Session

• Multi-Session
  – Better if large Pulmonary Embolus burden
  – Better if below knee DVT
    • Catheter Directed Thrombolysis
    • EKOS (US accelerated CDT)

• Single Session:
  – AngioJet—Boston Scientific
  – Aspirex—Straub
  – AngioVac—AngioDynamics
  – Trellis—Medtronic
  – Trerotola—Arrow
Use of a dedicated aspiration catheter enhances thrombus removal- it does not represent failure!!

- Terumo Destination™ 7F, 90cm, detachable hub sheath
- Any sheath from IVC filter set
- Vascular Solutions Pronto™ over the wire
Detachable hub sheath-
Terumo Destination™ 7F 90 cm- goes thru a 10F sheath
Post op - all patients

• Full anticoag before, during, after
• Full AC for 3/12 minimum
• Class 2 thigh high stockings x 6/12
• Thigh high sequential compression devices (SCDs) x until CDUS next day
• CDUS Day 1 post op
• If US clear then boots off; MOBILISE
• CTV @ 6/52
Filter or no filter??

How often do you pull the goalie?
There are no randomised controlled trials...........

- How often do patients with ilio-femoral DVT have PE?
- What is the mortality from treated v untreated DVT?
- What is the mortality during venous thrombolysis?
So how common is PE in patients with big DVTs??

- All CT venograms- Galway University Hospital

- 3 year period from July 2009 to June 2011 (137) were reviewed in our institution.

- Of these, 30 (27 for the lower extremities and 3 for the neck) had a same-admission CT pulmonary angiography study.

- Incidence of pulmonary embolus in patients with a positive lower limb CT venogram was 18/27 (67%).

- Of patients with pelvic vein involvement, without an IVC filter, 15/19 (79%) had pulmonary embolus.
CTPA

• Looking for
  – Pulmonary Embolus

– RIGHT VENTRICULAR DILATATION

  – Have a low threshold to do an Echo
Do filters help in SICK patients?

- Stein
- American Journal Medicine 2012; 125:478-484
- >2 million patients
- >1000 acute care hospitals
- 1999-2008
FILTERS SAVE LIVES in unstable patients with Acute Pulmonary Embolus
Lessons:

• While performing acute venous thrombectomy of thrombolysis I use an IVC filter if there is:
  – “Significant “ PE
  – RV dilatation
  – IVC thrombus
  – Atypical thrombus
  – SOB at rest
Conclusions

• Attack thrombus early using whatever method you're comfortable with...
• If older than 4/52 WAIT till 6/12- then stent
• If in doubt use a filter and take it out at 6/52
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