**REFERROLOGY SERIES: VENOUS THROMBOEMBOLISM**

**Guidelines**

- Uptodate
- ACCP Guidelines (2016 latest) - https://journal.chestnet.org/article/S0012-3692(15)00335-9/pdf

**Scoring Systems** (2min 57sec)

- Well's score generally for outpatient setting (not well validated for inpatient setting
- Geneva more granular than Well's for PE
- Inpatient suspicion for PE – Proceed with scanning

**Role for D dimer** (3min 49sec)

- Generally, for outpatient use (low Well's score only – to rule out)
- Inpatient, many processes can raise D-dimer

**PE Investigation** (5min 21sec)

- CTPA gold standard for diagnosis: Sensitivity and specificity of ~99%
- Pregnancy
    - CTPA – Increase lifetime risk of breast ca to the mother (because breast is lactating amidst radiation)
    - Do US DVT first, if positive – assume PE; if negative, do VQ scan
- In context of high suspicion of PE and echo shows RV strain, generally still have to proof presence of clot (if CT PA can't be done, a US DVT could be performed – if present, can likely assume PE)

**DVT Investigation** (8min 15sec)

- Sensitivity and specificity ~ 99%
- Repeat US: High index of suspicion – Can repeat in 1 week's time

**What counts as a Provoked Event?** (10min 25sec)

- Surgery: Major (>30min)/minor (<30min), site of surgery, usually within 1 month
- Obesity/Pregnancy/OCPs
- Prolonged flight travel: >7-8 hours
- Immobility: Completely immobile for > 3 days (major), if partial immobile (minor)

**Treatment of Massive/Sub-Massive PE?** (11min 53sec)

- NUH/NTFGH: Massive PE protocol
- Thrombolysis usually first line, percutaneous thrombectomy second line

**Anticoagulation?** (12min 58sec)

- When to start?
    - PE: 1mg/kg clexane before CTPA if index of suspicion is high – Start early for clot stabilisation to prevent clot migration
    - DVT: Usually scan first then anticoagulated
- Anticoagulation of choice
    - DOACs generally first line – Rivaroxaban (once/day dosing) or apixaban; dabigatran requires LMWH overlap for 5 days (hence logistically more challenging)
    - Even for cancer patients, DOACs generally becoming first line (can tolerate orally, no GI/urothelial cancers)
- Duration
    - Provoked: 3 months (provided provoking factor removed)
    - Cancer: Usually anticoagulated until cancer is cured

    - Unprovoked: >6 months to lifelong

- Reversal
    - Refer to in-house guidelines
    - Dagigatran: Idarucizumab
    - Factor 10a inhibitors: 4 factor PCC/Octaplex
- Recurrent events on anticoagulation
    - Always ensure compliance (note that DOACs are fairly short acting, hence compliance paramount)
    - If compliance present, then consider raising dose (limited experience with DOACs, or increase INR target) or switching agents

**Antiplatelet Therapy?** (20min 36sec)

- No role for acute treatment
- Prophylaxis (in surgery) – some evidence
- Can consider in patients on long term anticoagulation who want to come off anticoagulation (but less protective role than full anticoagulation)

**Superficial Vein Thrombosis** (21min 38sec)

- Lower Limb: Anticoagulate with prophylactic dose LMWH 1/day for 45 days if affected segment >5cm, close proximity to deep vein (<5cm)
- Upper Limb: Usually does not require treatment

**Upper Limb DVT**

- Usually associated with venous catheters
- If catheter is working well, line does not need to be removed
- Anticoagulation Upper limb thrombosis

**Clearance scans?** (23min 49sec)

- No indication generally
- 1/3 clots disappear after 3 months, 1/3 disappear after 1 year, 1/3 don't disappear and remain as scar tissue

**Secondary work up?** (24min 34sec)

- Variable practice
- Take detailed history for cancer, unprovoked DVT may be a precursor to future cancers – consider age appropriate screening
- Role for thrombophilia workup debatable – lifelong anticoagulation anyway
- Antiphospholipid syndrome
    - Once anticoagulation started, lupus anticoagulant will be falsely positive (can send of beta2glycoprotein/anticardiolipin still)
    - DOACs inferior in APS – may want to consider warfarin

**Role for IVC filter** (27min 30sec)

- Evidence controversial
- Effective only for 2 weeks
- Avoid IVC filter insertion if possible – Procedural risk, may become irremovable
- Remove ASAP once bleeding risk resolved then anticoagulate

**Take Home Messages** (30min 10sec)

- High index of suspicion
- Inpatient – caution about use of Well's score

- Start anticoagulation ASAP for PE if index of suspicion is high