Case Presentation

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Presenting Complaint

- 52 year old male with persisting R shoulder and worsening R elbow / upper limb pain post falling from dirtbike 9/7 ago

Assessment and Investigations

Subjective

- Fall from dirtbike 9/7 previous – landed on R shoulder / arm which struck into R chest wall = instant pain in shoulder>>elbow>>chest wall
- Initially seen at another ED – had x-rays of chest / shoulder (not elbow) which pt told were NAD and pt d/c home with LMO followup only. Pt told had “dislocated AC jt”
- Shoulder pain slowly improving, but worsening medial forearm / upper arm pain / swelling
- Now no chest pain / SOB

Assessment and Investigations

Subjective

- PHx
  - R rotator cuff repair 2010
  - R below knee DVT 06/12 – not really provoked (diagnosed after a flight to/from QLD, but had pain in calf prior to that)
- Meds
  - Nil regular but taking Panadeine Forte / Ibuprofen
- Allergies
  - Penicillin = Rash

Assessment and Investigations

Objective

- Swollen / bruised R shoulder / upper chest
  - Limited shoulder ROM due to lateral shoulder pain
  - Tender++ lateral end of clavicle / AC jt
  - No tenderness to upper lateral chest wall
- Swollen medial R upper arm and forearm (no bruising)
  - Elbow AROM 0-100 = tight>>painful
  - Tenderness more in soft tissues of medial forearm and upper arm with palpable marble sized lump in medial forearm soft tissues. Mild tenderness of distal humerus / proximal ulna

Assessment and Investigations

Differential Diagnosis

- Bony injury to R elbow
- Haematoma
- Deep Vein Thrombosis
- (plus previous undiagnosed bony injury to shoulder)

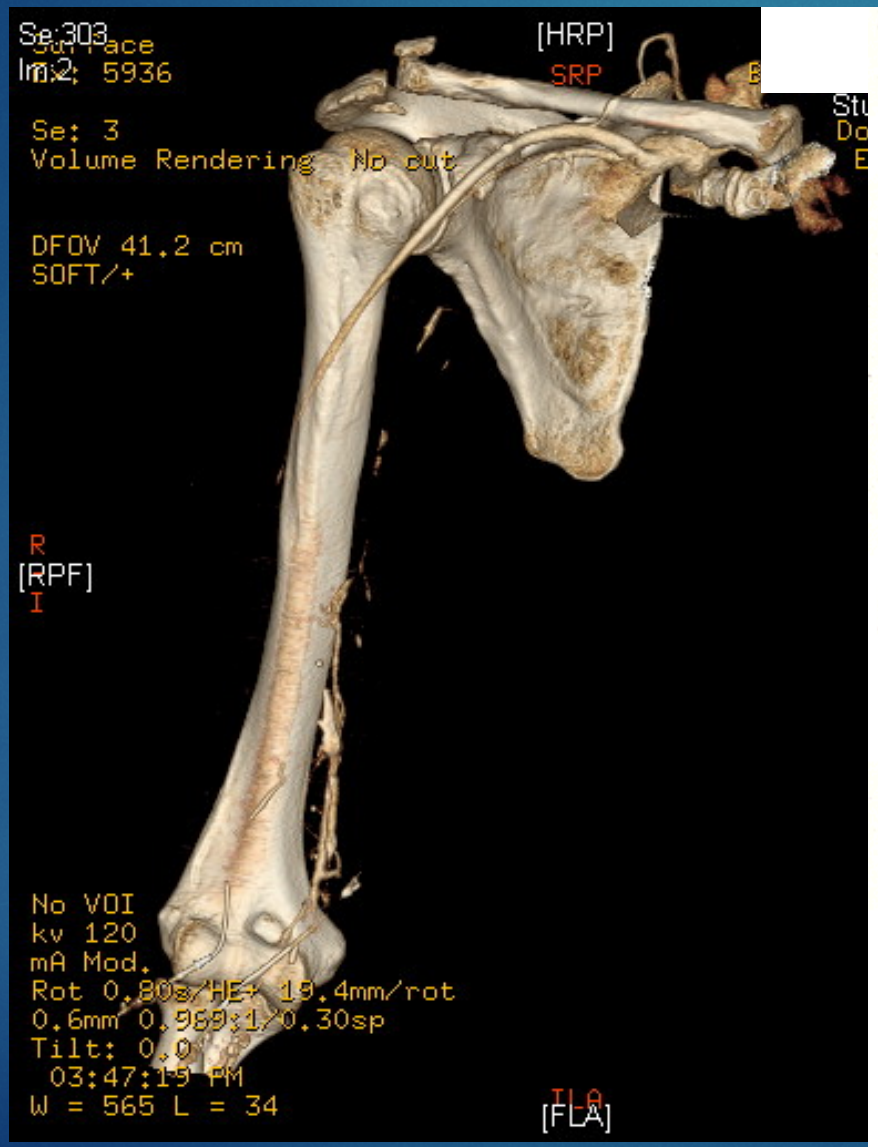
Further Investigation

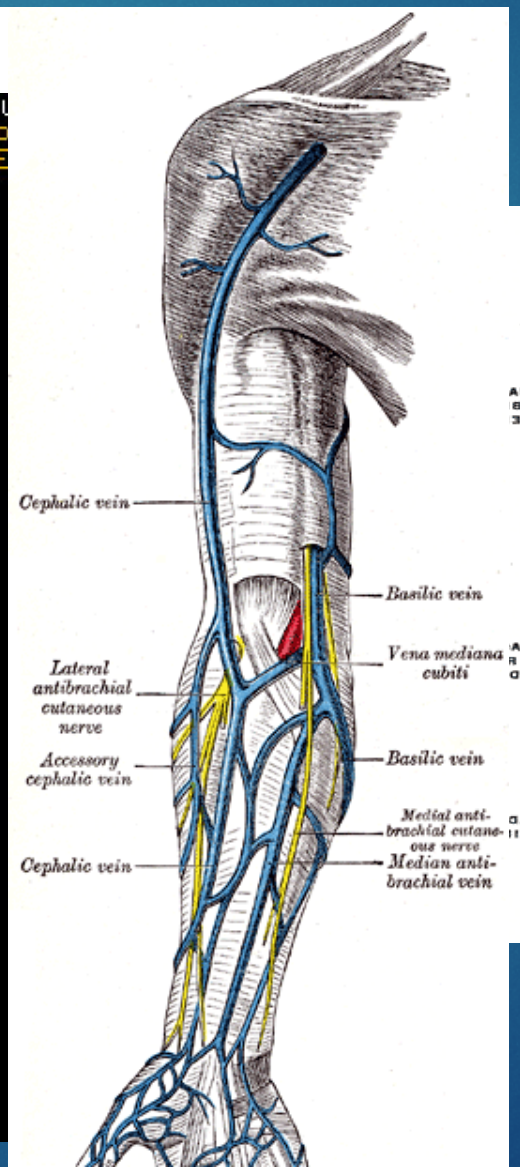
- X-ray elbow = NAD
- Shoulder = Discussed with Ortho Reg
  - For (OP) CT shoulder and clinic followup in a week
  - CT = no glenoid #. Lateral clavicle #

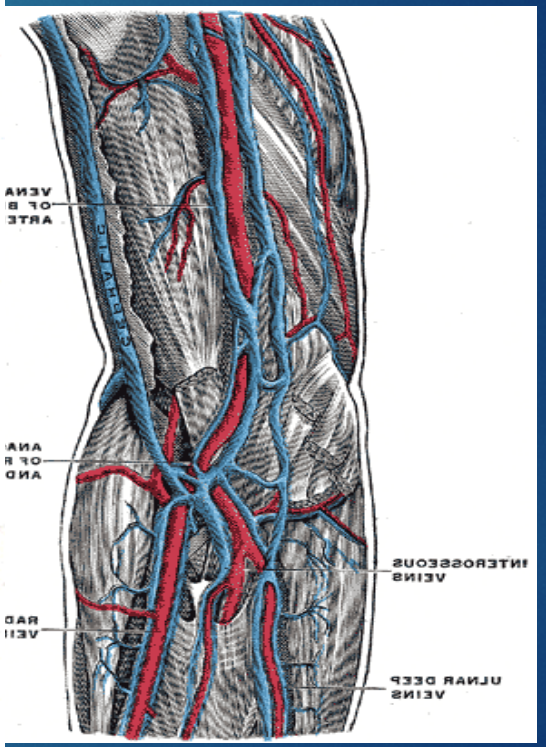
Further Investigation

- Discussed with and reviewed by SMS (straight after completed initial Ax) as suspicious for UL DVT = SMS referred for U/S
  - U/S = thrombus in brachial and basilic veins. ?? Thrombus in superior vena cava – suggested CT for further evaluation
  - CT = brachial and basilic vein thrombus. Axillary vein thrombus extending into subclavian vein cannot be confirmed or excluded. The subclavian vein is patient (patent) from cephalic junction.
  - Coagulation Screen – 2* DVTs in last 6/12 = NAD

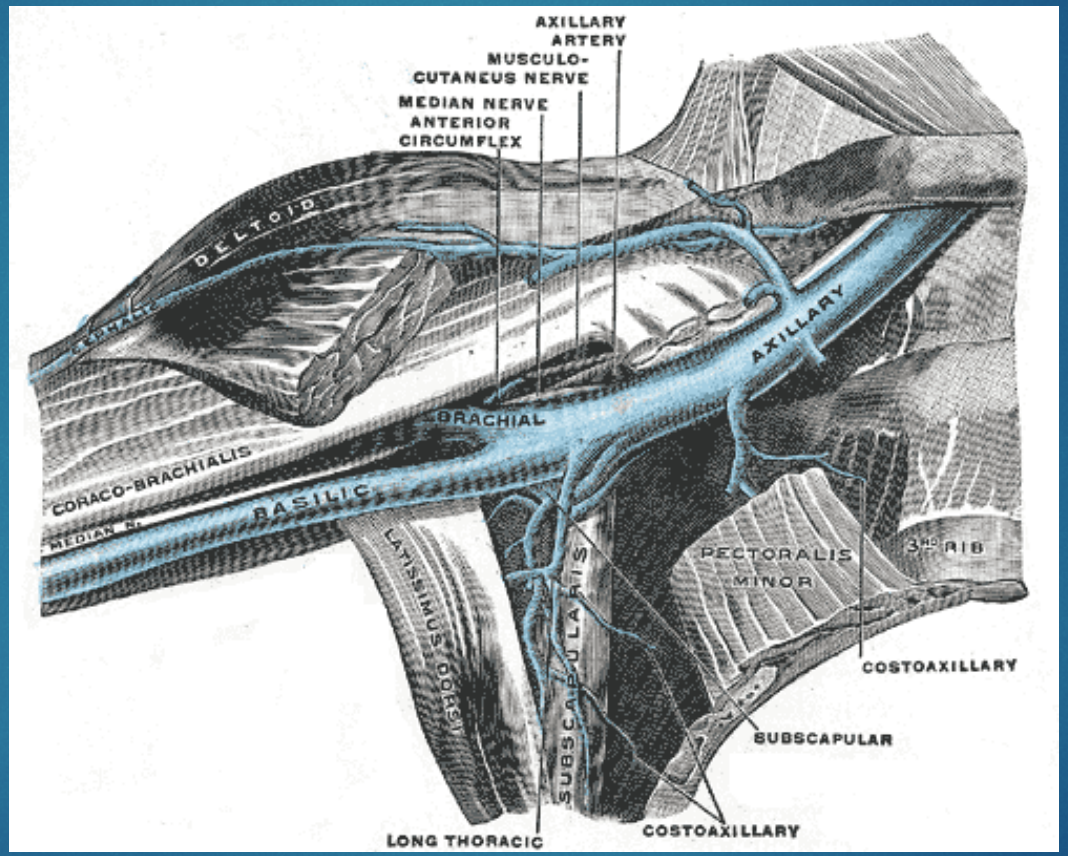
Further Investigation







Further Investigation



Management

- Shoulder = likely for conservative Mx

- DVTs = clexane under HITH, then followup in haematology clinic (likely Warfarin 6/12 after this)

Lessons Learnt

Upper Limb DVTs

- Accounts for approximately 10% of all DVTs with an annual incidence of 0.4 to 1 case per 10,000.
- Patients are younger, leaner, more likely to have a diagnosis of cancer, and less likely to have acquired or hereditary thrombophilia compared to LL DVT
- Complications of DVTs are less common compared to LL DVTs and include:
  - pulmonary embolism (6% vs. 15 to 32% for LL)
  - recurrence at 12 months (2 to 5% vs 10% for LL)
  - post-thrombotic syndrome (5% vs up to 56% for LL)

Lessons Learnt

Upper Limb DVTs

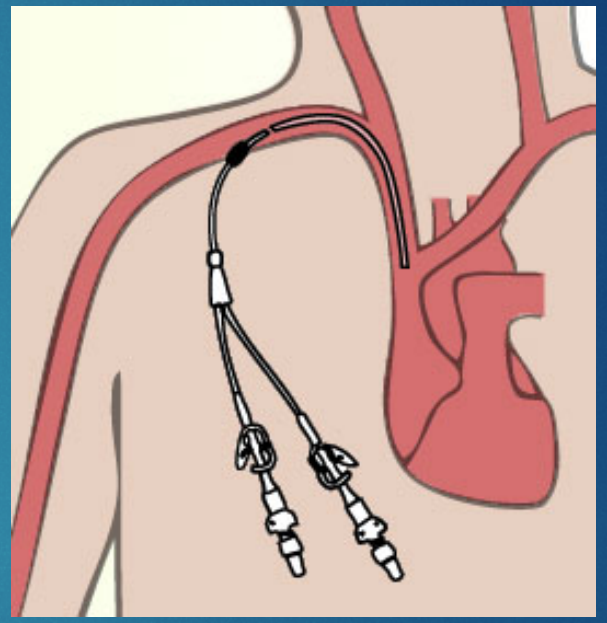
- Two classifications:
  - Primary (20%)
    - Spontaneous (2/3rds of primary cases)
      - "Paget-Schroetter Syndrome" – usually males in their dominant arm, after strenuous activity such as rowing, wrestling, weight lifting, or baseball pitching, but are otherwise young and healthy. May have thoracic outlet syndrome (repeated microtrauma).
      - The heavy exertion causes microtrauma to the vessel intima and leads to activation of the coagulation cascade. Significant thrombosis may occur with repeated insults to the vein wall, especially if mechanical compression of the vessel is also present
    - Idiopathic (1/3rd of primary cases)
      - May be associated with occult cancer (lung Ca or lymphoma) - in approx 25% of cases Dx within 1 year

Lessons Learnt

Lessons Learnt

Upper Limb DVTs

- Secondary (80%)
  - Central venous catheters, pacemakers, or cancer and accounts for most cases of UL DVTs. The vessel wall may be damaged during catheter insertion or during infusion of medication
  - Surgery or trauma of the arm or shoulder.
  - Pregnancy, use of oral contraceptives, ovarian hyperstimulation



Lessons Learnt

Diagnosis

- Clinical
  - Swollen limb, prominent veins, painful vasculature
- Blood test
  - D-dimer (if -ve, can exclude DVT; +ve MAY have DVT = needs U/S). D-dimer specificity may be low due to groups at risk likely to cause elevated D-dimer.
- Ultrasound
  - Similar to Wells criteria for LL:
    - Catheter or pacemaker use, pain, and oedema +1
    - Likelihood of an alternative diagnosis -1 point.
  - UL DVT found in:
    - 13% of patients with a score of 0 or less,
    - 38% of patients with a score of 1
    - 69% of patients with a score of 2 or more.

Lessons Learnt

References

- Joffe HV and Goldhaber S. Upper-Extremity Deep Vein Thrombosis. *Circulation.* 2002;106:1874-1880
- Kucher N. Deep-Vein Thrombosis of the Upper Extremities. *N Engl J Med* 2011;364:861-9