A 12 month retrospective audit of yttrium synovectomies done at the Ronald Sawers Haemophilia Centre

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Background

• Haemophilic arthropathy
  – Acute haemarthrosis
  – Subacute arthropathy
    > Repeated joint bleeds / synovial thickening
    > Target joint
  – Chronic arthropathy
    > Loss cartilage; sclerosis subchondral bone

• Secondary synovitis
  – Product prophylaxis
  – Intra-articular injections
  – Yttrium synovectomy
  – Surgical synovectomy
Background

Yttrium
chemical element Y39
makes phosphors used in LEDs and television cathode ray tubes

Y90
radioactive isotope
half life 2.5 days
Beta radiation (2mm)
Yttrium synovectomy technique

- Similar technique to intra-articular cortisone injection
- Splinting / bracing
- Requires 1-2 night stay in hospital (at our institution)
Yttrium synoectomy in Haemophilic arthropathy

- 40 joints in 20 patients treated 1987-1991
- 19 severe and 1 moderate factor deficiency / 15 HIV positive
- Indications
  - Severe synovitis
  - Historically poor response to standard treatment
  - Repeated haemarthrosis
  - Joint pain
- No sided effects were encountered at the time or immediately after injection. Minor leakage to regional lymph nodes in 2 patients (2 joints)
- Significant reduction in joint bleeds (p<0.001)
- Significant reduction in factor usage (p<0.001)

Retrospective Audit 2008

- 9 patients with haemophilia and one patient with severe Type III VWD received a yttrium synovectomy at the Ronald Sawers haemophilia Centre in Melbourne.
- Between 1-3 joints injected
- 4 patients with active Hepatitis C
- 1 patient also co-infected with HIV
- 2 patients with inhibitors (4 joints)
Distribution of joints injected

- Each patient had between one and three joints injected.
Reported outcomes

- A significant improvement was reported in only 3 patients and one reported an incomplete improvement.
Adverse Outcomes

- There were 2 cases of leakage, fortunately with no chronic sequelae.
- There was one case of septic arthritis in a different joint to that injected.
- There was one possible bleed 2 days following the procedure.
Why are our result different from 1984?

• Product prophylaxis
• Earlier intervention
  – Dedicated rheumatology clinic in the haemophilia centre
  – Waiting list 1-4 weeks
  – Steroid joint injections (able to implement during the initial consultation if required)
• Less patients HIV positive
• MRI with gadolinium used to detect subtle secondary synovitis
Intra-articular Corticosteroid

• “Corticosteroid injection alone seem to be effective for much shorter periods of time and are not generally considered an alternative to most radionuclide synovectomies”
• BUT, practise has changed, particularly in regards to prophylaxis and product use.
• Studies done over one decade ago.

Conclusions

• Prior studies support the use of yttrium synovectomy in target joints
• There has been a change in treatment at our hospital over the last decade
• This may have led to decreased efficacy shown
• A larger prospective trial is being planned to clarify the efficacy of yttrium synovectomy in today’s patient cohort. Hopefully we will be able to identify parameters for better patient selection.