Thyroid eye disease  TED
What works, what doesn’t

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Summary

- TED can be very tough to treat
- Need effective staging strategies in each of inflammatory, congestive & fibrosis components
- Need better imaging [prob biochemical]
- Probably best managed in dedicated TED clinic manned by oculoplastics, strabismus, endocrine & addiction Drs [Σ Australia =1, @ RNS].
Pt 1.

- Constant diplopia since 4/13.
- 9/13: tight RMR, RIR
- Good vision / optic n function
- Multiple endocrinologists / ophthalmologists
He gets worse, has pulsed steroids: no better, possibly worse
Unstable biochem. High TSH Rc Abs. Constant diplopia.
Normal acuity, optic n function.
Next??

BEFORE

AFTER PULSED STEROIDS
How to assess the stage of TED

3 overlapping phases / pathologies:

• Inflammation
• Venous congestion
• Fibrosis

Another way to assess & predict clinical activity and course in TED

Rundle’s Curve 1945

Severity of TED

Time

- In TED, the clinical pictures of inflammation, venous congestion & fibrosis overlap and cannot be reliably distinguished
- ‘Orbital inflammation’ can be relieved by orbital decompression
- It is fibrosis that probably makes strabismus worse
Extraocular muscle changes in experimental orbital venous stasis: some similarities to Graves’ orbitopathy

Without evoking a primary orbital inflammation or inducing a systemic autoimmune disease, an animal model of venous stasis has been developed that closely mimics many of the advanced clinical and histologic changes that occur in TED.
What usually works in TED

• Generous decompression
Optic n compression, uncosmetic proptosis, makes strabismus surgery more effective, reduces ‘inflammation’ & ‘congestion’

• Lid surgery
Selection bias – I don’t see pts with solely oculoplastic problems

• Strabismus surgery for diplopia
Success per surgery >50% for ‘old’ diplopia, ~ 50% when ‘hot’

• Strabismus for bad abn head posture

• Glasses for acquired astigmatism
Strabismus surgery for abn head posture

Looking straight ahead

Large IR Rc OU (Traboulsi approach)

Locking up

Looking straight ahead

Looking up
What sometimes works in TED

• Doing nothing – it gets better
• Botox for lid retraction
• Botox for diplopia
• Celebrex for orbit pain
• Guanethidine eye drops for lid retraction [made by Leiter’s pharmacy; TGA paperwork]
Treatments with a good reputation for safety & effectiveness

- Orbital radiotherapy
- Steroids – oral
- Steroids – pulsed
- Glaucoma drops to lower high IOP
Treatments with a good reputation for safety & effectiveness -

Orbital radiotherapy

- **Mayo 2001 & 2002**
  In this group of patients, representative of those for whom radiotherapy is frequently recommended, we were unable to demonstrate any beneficial therapeutic effect.

  Because it is neither effective nor innocuous, radiotherapy does not seem to be indicated for treatment of mild-moderate ophthalmopathy.

- **American Academy Ophthalmology meta-analysis 2008**
  Level I evidence indicates that proptosis, eyelid retraction, and soft tissue changes do not improve with radiation treatment.

- **Cochrane 2012**
  Some effect in mild - moderate TED
  XRT better if combined with steroids
  One study: effect of XRT = steroids
Treatments with a good reputation for safety & effectiveness:

Steroids

- Often over-used and wrongly used
- Pulsed better than oral steroids

Real morbidity

- Can be dramatically effective
- **Can be dramatically ineffective**

I see this regularly - ?selection bias in diplopia population

- Needs a prospective study

Lots of steroid side effects

- Peri-menopausal women: osteoporosis
- Weight gain
- Cataract

9 deaths reported
7 from IV, 2 from oral steroid
32 non-fatal events reported
AJ, dob 1949
Constant diplopia since onset TED in 11/2011; needs chin up.
I$^{131}$ in 10/2012. Oral steroids since.
40 Kg weight gain. Osteoporosis, AMI.
Little/ no change to diplopia.
What usually doesn’t work

- Low dose steroids eg 10-20 mgm /d
- Selenium
- Strabismus surgery to expand a modest field of single vision
Sexy expensive new treatments

- Biologicals [Enbrel etc], Actemra, Rituximab, ....all potentially exciting, all awaiting good trials – NO place in treatment of your next pt. There will be pressure to use the biosimilars that are about to hit the market.
We fail our patients

- I can prescribe $x000s of drugs.
- Smoking is the most important risk factor for occurrence & progression of TED, and for lower & slower response to any treatment.
- We have alcohol, ice and narcotic facilities. There is no smoking cessation facility in Melbourne.
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