Summary Protocol for Treatment of Thyroid Eye Disease

This protocol is based on the 2008 Consensus statement of the European Group on Graves' Orbitopathy (EUGOGO) on Management of Graves Orbitopathy[1].

Treatment depends on disease activity, severity and the impact on the individual patient.

The Clinical Activity Score (CAS) is used to help assess activity.
A score of ≥ 3/7 or more indicates active disease (appendix).

See appendix for grading of severity.

- **All patients who are smokers must be advised to stop**
- Liaise with endocrinologist to **ensure euthyroid status** for all patients

Active Disease

Always discuss treatment options (including no treatment) with the patient

Mild

- Conservative treatment with topical lubricants.
- Glucocorticoids(GCs) are rarely justified in mild GO as the risks outweigh the benefits
- Observation is appropriate for most patients with mild GO.
- In a minority of patients, quality of life may be so profoundly affected that treatments for moderate to severe disease may be justified.

Moderate to Severe

- The treatment of choice for **active** (CAS ≥ 3/7) moderate to severe GO is pulses of IV Glucocorticoids (GCs).
- Intravenous GC regime: 500mg once weekly for 6weeks, 250mg once weekly for 6 weeks: total treatment period 12 weeks.
- The total cumulative dose of methylprednisolone should not exceed 8g in one course of therapy
- Patients should be checked before treatment for a history of hypertension, diabetes, peptic ulcer, liver disease, TB, urine infections and glaucoma, and then monitored for side effects.

- Orbital irradiation (OR) can be used in patients with **active** disease who have diplopia **or restricted motility** if steroids have been ineffective or for patients who cannot tolerate steroids. The cumulative dose is 20Gy.

- The combination of oral GCs with OR is more effective than either treatment alone, and steroids can be used to cover the 2-3 month period after treatment with OR until it becomes fully effective.
- **Avoid** OR in patients younger than 35 years, patients with diabetic retinopathy or severe hypertension.
- Other contraindications are pregnancy, head or neck malignancy, or previous orbital radiotherapy.
- Diabetes without retinopathy may be considered a relative contraindication.

Severe (Dysthyroid Optic neuropathy (DON) / Corneal breakdown)

- **High dose IV GCs** are first line treatment for DON. If response to treatment is absent or poor after 1-2 weeks, or treatment is not tolerated, proceed to orbital decompression.

- Steroid regime for severe GO

Day 1 500mg IV methylprednisolone
Day 2 ditto
Day 3 ditto
Day 4 40mg oral prednisolone for 2 weeks
Then reducing 30mg for 1 week, 20mg for 1 week, and then reduced as per assessment.
Weeks 5 and 10 readmit for repeat courses.

For patients who do not respond, tail off quickly:
40mg oral prednisolone 1 day
30mg 1 day
20mg 1 day
10mg 1 day
5mg 1 day, then stop.

- **Orbital decompression** should be offered promptly to patients with DON or corneal breakdown who cannot tolerate GCs.
- Orbital Radiotherapy is not recommended in the case of DON unless as an adjunct to proven therapies.

- **Patient monitoring when on steroids**

Ensure regular BP and blood sugar checks for patients on oral steroids, e.g. at each clinic review or every 4 weeks by GP practice for those on longer term moderately high doses
Patient to carry ‘Steroid Card’.

Adjunctive treatment

- **Gastric protection**

If on oral steroids include anti**-ulcer** drug: e.g.: oral Omeprazole 10mg. od (for prophylaxis) or 20mg od if symptomatic. If on IV GCs, cover with oral Omeprazole only if symptomatic.

- **Bone protection** as per local guidelines.

Bisphosphonates and Adcal D3 are recommended when using long term (> 3 months) oral GC therapy (average daily dose > 5mg prednisolone).

Other Measures for Symptom relief

- Lubricant eye drops during the day and/or lubricant ointment at night
- Sleeping with the head raised may reduce morning lid swelling
- Cool compresses may also relieve lid symptoms
- Prisms for symptomatic diplopia
- Botulinum toxin injection may be considered for upper lid retraction.

Hypertensive and Diabetic patients

Close monitoring of glycaemic control and blood pressure is important. Thiazide or loop diuretics should be used with caution during high-dose GC therapy to avoid hypokalemia. The same principle applies to surgical treatments.
Diabetic retinopathy and /or severe hypertension are absolute contraindications for Orbital radiotherapy (OR).
Diabetes without retinopathy is a relative contraindication for OR.
Diabetes and/or hypertension are not contraindications to surgical orbital decompression or other surgical treatments for GO.

<u>Inactive Disease</u>

- Rehabilitative surgery should only be performed in patients who have had **inactive** GO for at least 6 months.

- Surgical management should proceed in the following sequence:

    1. orbital decompression
    2. squint surgery
    3. lid lengthening with or followed by blepharoplasty / browplasty,

Impact of treatment for Hyperthyroidism

Radioiodine^{131}

Patients with **active GO** given radioiodine^{131} should be given prophylactic steroid cover (dose 0.3-0.5mg of prednisolone per kg of body weight per day orally for 1-3 days after radioiodine and tapering the dose until withdrawal about 3 months later).

Patients with **inactive GO**. *(CAS ≤ 2* ***and*** a history or clinical evidence of stability or improvement over the preceding 2-3 months) can safely receive radioiodine without steroid cover, as long as post treatment hypothyroidism is avoided and other risk factors for GO progression, such as smoking and high TSH receptor antibody levels are absent.

References

Consensus Statement of the European Group on Graves' Orbitopathy (EUGOGO) on Management of Graves' Orbitopathy. Bartalena L, et al 2008 THYROID Vol 18, No.3, 333-346