Sandwell and West Birmingham Hospitals NHS
NHS Trust

THYROID EYE DISEASE

Guideline author and job title	Dr P De, Consultant Physician in Diabetes and Endocrinology Mr A Murray, Consultant in Ophthalmology
Group, Directorate and Specialty	Diabetes and Endocrinology
Approving body and date of approval	Drugs and Therapeutic Committee Primary Care Community & Therapies Quality and Safety 07/11/2019 Directorate Governance - Ophthalmology
DTC approval date	26/11/2019
Guideline reference	SWBH/Diab/020
Date uploaded onto Connect	28/11/2019
Next review date	26/11/2022

Consultation process:
Approval at Primary Care Community & Therapies Quality and Safety Group.

If review of existing guideline what has been changed:
Hyperlink amended for information for patients with TED guideline

What National Guidance has been incorporated:
- N/A

Scope (who does the guidelines apply to or not apply to):
- The guideline applies to clinicians in diabetes and ophthalmology

DOCUMENT CONTROL AND HISTORY

Version No	Date Approved	Next Review Date	Reason for change (e.g. full rewrite, amendment to reflect new legislation, updated flowchart, etc.)
2	January 2010	January 2013	Full review, minor changes made by ophthalmic team
3	December 2013	December 2016	
4	February 2017	February 2020	Addition to Section 5
5	26/11/2019	26/11/2022	

THYROID EYE DISEASE

Exophthalmos and other eye signs are hallmark of Grave's disease and may be occasionally seen in the absence of features of hyperthyroidism. Very rarely does Grave's ophthalmopathy occur in patients who are clinically euthyroid. Please refer all patients with Thyroid Eye Disease to the combined multi-disciplinary TED clinic jointly organised by Mr Y Ghosh & Dr P De in the BMEC every 2-3 months.

1. **Symptoms** include excessive tearing, grittiness, photophobia, eye pain, decrease in visual acuity and diplopia.

2. **Signs** of active disease include conjunctival injection, chemosis, proptosis, periorbital oedema and ophthalmoplegia.

3. **Diagnosis:** When eye disease occurs in patients who are biochemically euthyroid, auto-immune thyroid disease should be suspected and diagnosis confirmed by thyroid antibody testing (TPO/TSHR-Ab). Orbital CT or MRI may be indicated to exclude other orbital disease.

4. **Management:** Management of patients with more than mild symptoms and active signs should be carried out in conjunction with an ophthalmologist. **Any suggestion of visual loss in patients with known thyroid disease should spark URGENT referral to an ophthalmologist**. Additionally any patient with new active Thyroid eye disease particularly with double vision needs rapid referral to an ophthalmologist.

   Treatment is directed towards restoring thyroid function to normal, although severity of eye disease and thyroid function don't often go in parallel. New active thyroid eye disease with double vision is usually treated urgently with IV methylprednisolone followed by high dose steroids, under the supervision of ophthalmologists. Sunglasses to counteract photophobia and lubricants (sodium hyaluronate eye drops or paraffin based eye ointment). For peri-orbital oedema, elevation of the head end of bed and night-time diuretics may be useful. Early intervention with medical treatment can prevent long term effects such as double vision and proptosis, however concurrent use of prisms to correct diplopia and restore binocular single vision is usually helpful.

   It is generally believed that thyroid eye disease may worsen following radio-iodine therapy. The other possible risk factors for progression or worsening of ophthalmopathy are cigarette smoking, duration and severity of hyperthyroidism and post-therapy hypothyroidism. There is however evidence that in patients with established ophthalmopathy, a course of corticosteroids begun at the same time as administration of radio-iodine therapy decreases the possibility of worsening of their ophthalmopathy.

   Typically, 40 mg of prednisolone (0.4–0.5 mg/kg) is started on the day of radio-iodine treatment for a fortnight, followed by 30 mg daily for the next fortnight, 20 mg daily for another fortnight, 10 mg daily for another fortnight and 5 mg daily for another fortnight and then stopped (see table below). (Bartalena et al, NEJM 1989 Nov 16; 321(20): 1349-52).

Prednisolone 40 mg for 15 days, followed by
Prednisolone 30 mg for 15 days, followed by
Prednisolone 20 mg for 15 days, followed by
Prednisolone 10 mg for 15 days, followed by
Prednisolone 5 mg for 15 days, then STOP

Orbital decompression and radiotherapy are other modalities of treatment reserved for more severe cases of ophthalmopathy and should be discussed with and managed by an ophthalmologist.

5. Information for People with Thyroid Eye Disease (TED)

Available from the British Thyroid Eye Disease Association- follow link-
http://www.british-thyroid-association.org/info-for-patients/
See also information for patients with TED guideline, adapted from this group.

For more information patients can also access Thyroid Eye Disease Charitable Trust via http://tedct.org.uk/

For details of management of patients with TED, consult Consensus statement of the European Group on Graves' orbitopathy (EUGOGO) on management of GO - European Journal of Endocrinology (2008) 158: 273–285