NICE Clinical Guideline 85

Glaucoma – Quick reference sheet for pharmacists

Royal Pharmaceutical Society of Great Britain

INTRODUCTION

- NICE glaucoma guidelines were published April 2009.
  The quick reference guide can be visited at http://www.nice.org.uk/guidance/CG85/QuickRefGuide/pdf
- NICE guidelines cover the diagnosis and management of chronic open angle glaucoma (COAG) and ocular hypertension (OHT).
- COAG is a progressive condition characterised by visual field loss and glaucomatous optic nerve damage with or without elevated intra-ocular pressure (IOP).
- OHT is elevated eye pressure without visual field loss or glaucomatous optic nerve damage and represents a major risk for future development of COAG.
- For many people with COAG their condition may be symptom free until severe visual damage has occurred.
- Patients need to be monitored for IOP, optic disc and visual field changes to assess progression of COAG or conversion of OHT to COAG.

Current NICE guidance does not cover

- Patients under the age of 18 years.
- Patients with secondary glaucoma, angle closure glaucoma and adults with childhood glaucomas.
- Use of systemic carbonic anhydrase inhibitors and topical miotics.

Incidence of glaucoma

- Leading cause of preventable blindness in the UK, with 10% of blindness registration ascribed to glaucoma.
- Affects 2% of people older than 40 years rising to 10% in people over 75 years.

Managing the disease

- Aim of treatment is to lower IOP in people with COAG or suspected COAG.
- Once diagnosed individuals need lifelong monitoring.
- Where there is disease progression in COAG despite good adherence to pharmacological treatments patient may be offered surgery with pharmacological augmentation using mitomycin (MMC) or 5 fluorouracil (5 FU).
- As MMC and 5FU do not have UK marketing authorisation for this use, patient consent should be obtained and documented.
- Specialist will offer pharmacological or laser treatment if patient is unsuitable or chooses not to have surgery.

Health education

- People over 40 years, those with a history of glaucoma in their family, those who have diabetes or are short-sighted, and those of African-Caribbean origin are at greatest risk. Vascular disorders e.g. cold hands and feet should also be considered a risk factor. Pharmacists have an important role here to alert such 'at risk' patients that:
  - It is important to have regular eye tests for early disease detection.
  - They may be eligible for free eye tests. (See panel)
- Patients on glaucoma medication should be monitored at regular intervals as specified by the clinician.(See NICE CG85 for further details)
- Useful resources for pharmacists and patients available from the Royal National Institute of Blind People (RNIB)
  at www.rnib.org.uk and
  the International Glaucoma Association (IGA).
  at www.glaucoma-association.com
- For patient support the IGA can also be contacted by phoning their Sightline; 01233 648170
- Pharmacists can participate in National Glaucoma Awareness Week. Further details available at:
  http://www.glaucoma-association.com/nqcontent.cfm?a_id=1875&=fromcfc&tt=article&lang=en&site_id=0

Free eye tests

You are entitled to a free eye test, paid for by the NHS if:

- under 16 years of age (or under 19 and in full time education)
- living in Scotland
- qualified (or your partner is qualified) for income based exemptions. Obtain an HC 11 leaflet (Help with Health costs) for details of NHS charging arrangements in England.
- Diagnosed with diabetes or glaucoma
- 40 years of age or over and your mother, father, brother, sister, son or daughter has a diagnosis of glaucoma
- advised by an ophthalmologist (eye doctor) that you are at risk of developing glaucoma.
- registered blind or partially sighted.
- prescribed complex lenses e.g. prism controlled bifocals.

For further details or to download an HC11 leaflet visit http://www.nhsbsa.nhs.uk/HealthCosts/Documents/HealthCosts/HC11.pdf

PHARMACY CHECK LIST

Check understanding about treatment

- Prompt patient to confirm purpose of medication
- Check patient or carer:
  - Can read the label.
  - Can read the manufacturer's patient information leaflet (PIL).
  - Is aware of dose, frequency of use and which eye(s) to treat.
  - Is aware of timing of dosing.
  - Is aware of the time interval to leave between instilling drops when using more than one therapy.
  - Is aware that topical treatments may give rise to systemic side effects (see overleaf).

Pharmacist Interventions

- Reinforce patient's understanding of all current medicines. Consider providing a written prompt.
- Offer large print label where appropriate or confirm carer arrangement if patient not self administering.
- Discuss PILs available in alternative forms by visiting X-PIL on line at http://xpil.medicines.org.uk The Royal National Institute of Blind People (RNIB) Medicines Information Line (tel 0800 198 5000) can provide PILs in large/clear print, in Braille and on audio CD.
- Demonstrate compliance aids where squeezing/positioning of eye drop containers is a problem. (See overleaf.)

Adherence concerns

- For current NICE guidance on medicines adherence see the quick reference guide for pharmacists at www.rpsgb.org/pdfs/NICEmedsadhimplementguid.pdf
- Reinforce need to continue treatment.
- Confirm patient understands how to obtain repeat supplies.

Regular reviews

- Check for health or medication changes.
- See 'Should I let the eye doctor know if I am, or am planning to become pregnant?' at
  http://www.glaucoma-association.com/nqcontent.cfm?a_id=1731&=fromcfc&tt=article&lang=en&site_id=176
- Refer to prescriber if patient has:
  - become pregnant.
  - persistent local side effects e.g. red eye.
  - possible systemic effects e.g. shortness of breath.
  - drug interactions or contraindications to current glaucoma therapy.
  - suspect/poor compliance.

Key advice for patients

- Instil drops as clinician intended: in the correct eye, at the right dose, at the right time.
- Use eye preparation safely and hygienically and store it correctly.
- Close eyes and practice punctal occlusion after instillation of eye drops to minimise systemic absorption (see overleaf).
- For multidose containers note the date eye preparation first opened and when it needs replacing.

Allow at least 5 minutes between using different eye preparations to avoid wash out. Order of use: simple aqueous solution before a gel or suspension. An eye ointment should be used last of all.

NO TREATMENT

For OHT or COAG suspects where either:

(1) The IOP measurement is acceptable (<21mmHg) and there are no visual field or glaucomatous optic disc concerns identified by the ophthalmologist

OR (2) Patient is over the age threshold for which the benefits of treatment are likely to be seen over an appropriate time scale. e.g. Where normal thickness cornea, an IOP of >25-32mm Hg with no optic disc or visual field changes, patients over 60 years would not routinely be treated.(See NICE CG 85 for further details)

TOPICAL TREATMENT

Both OHT and COAG management pathways recommend monotherapy with a beta-blocker or prostaglandin analogue. Fixed combination products are available and may be appropriate for some people as they present a simpler dosing regime. All contain the higher strength of timolol (0.5%), however which may lead to unnecessary side effects. A fixed combination also means dose titration is not possible. There are preservative free unit dose alternatives for some prostaglandin analogues, beta-blockers and CAIs . Cost-effectiveness of preservative free agents however only established in COAG or those at high risk of conversion to COAG. (See NICE CG85 for further details)

Only beta-blockers and prostaglandin analogues are licensed for first line treatment in OHT and COAG. More than one agent (from different drug classes) may be needed concurrently.	**CONTRA INDICATIONS** No agent to be used where known hypersensitivity to an active ingredient, excipient or preservative. No agent recommended in pregnancy or breast feeding.	**DRUG INTERACTIONS** The following interactions or side effects have been described within the Summary of Product Characteristics of some agents within their group. For full product details visit http://emc.medicines.org.uk	**SIDE EFFECTS**
Prostaglandins analogues; Bimatoprost Latanoprost Travoprost		Use with other prostaglandin analogues-reports of paradoxical elevations in IOP.	Ocular – increased iris pigmentation (where mixed coloured irides), hyperaemia. Other – increased skin pigment and eyelash growth.
Beta-blockers: Betaxolol Carteolol Levobunolol Timolol	Bronchial asthma, chronic obstructive pulmonary disease, bradycardia. 2nd or 3rd degree atrio-ventricular block. Cardiogenic shock. Precaution; Cardiac failure.	Potential broncho-constriction, bradycardia and central nervous system effects where concomitant use of systemic beta-blocker or with CYP2D6 inhibitors (e.g. quinidine, SSRIs) Cardio-vascular effects with calcium channel blockers; of particular concerns atrio-ventricular conduction disturbances or left ventricular failure with verapamil or diltiazem.	Ocular – burning, stinging. Drying of eyes. Systemic – bradycardia, worsening of severe peripheral and central circulatory disorders. Dyspnoea, asthma. Other – Sleep disturbance, hallucinations, depression, fatigue and loss of libido.
Carbonic anhydrase inhibitors (CAI): Brinzolamide Dorzolamide	Known hypersensitivity to sulphonamides. Severe renal impairment. Precautions; Acidosis. Hepatic impairment.	Caution if CYP3A4 inhibitors are given concomitantly e.g. ketoconazole, itraconazole, clotrimazole, ritonavir although accumulation unlikely provided good renal function.	Ocular – blepharitis, eye irritation, pain, dryness. Systemic – headache. Other – dry mouth, abnormal taste which if associated with
Sympathomimetics: Apraclonidine Brimonidine	Patients on monoamine oxidase inhibitor therapy and patients on antidepressants which affect noradrenergic transmission (e.g. tricyclic antidepressants and mianserin).	Possible potentiating effect with central nervous system depressants. e.g.alcohol, barbiturates, opiates, sedatives, or anaesthetics.	Ocular – hyperaemia, burning/ stinging. Systemic – headache, drowsiness, dizziness, gastro-intestinal symptoms. Other – dry mouth,abnormal taste which if associated with drainage into nasopharynx can be reduced by punctual occlusion.

To reduce systemic absorption close eyes after using drops and apply pressure at the inner corner of the eye over the upper and lower puncti (punctal occlusion) see specific PIL

Compliance

Where poor compliance is identified patients may benefit from a once daily preparation or if using more than one preparation a combination product. If there are physical problems with using drops the patient/carer may benefit from use of a compliance aid.

Available on prescription	Available free of charge	Only available to purchase
The Opticare® range helps position and squeeze most plastic eye drop containers. The Opticare® is available in different colours which may help patients differentiate when using two or more products. Opticare® Arthro 5 and 10 can help patients with manual dexterity problems. The full Opticare® range available is detailed at: http://www.cameron-graham.co.uk/pages/eye-patients-and-carers.php	Pharmaceutical companies may recommend Opticare® or provide specific products which are compatible with their range of glaucoma medications. e.g. Pfizer supply Xal-ease® for its latanoprost products. Alcon supply Eyot® for its travoprost products. Useful list of compliance aid compatabilities at: http://www.glaucoma-association.com/nqcontent.cfm?a_id=1542&=fromcfc&tt=article&lang=en&site_id=176	Autodrop® device. Details available at: http://www.owenmumford.com/en/range/9/autodrop.html

Storage

Cool wallets and insulated pouches are available for use in warm climates & can store eye drop bottles without the need for a fridge for up to 48hrs. Purchase through IGA. at: http://www.glaucoma-association.com/nqcontent.cfm?a_id=469

'This guidance has been prepared by the UK Ophthalmic Pharmacy Group on behalf of the Royal Pharmaceutical Society of Great Britain'

The web addresses were correct at the time of printing

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