

Guidance on options for the pharmacological management of hypersalivation in adult neurology patients (patients aged 18 and over)

Hypersalivation or sialorrhoea is the excessive production of saliva and may result in involuntary loss of saliva from the mouth i.e. drooling. The pathophysiology of sialorrhoea is often not clear, and in some cases it is thought to be due to a poor swallowing mechanism and inadequate rate of swallowing rather than increased saliva production.

This guideline is intended to offer information on the management of hypersalivation in adults. Common primary conditions causing hypersalivation are Parkinson's disease, Motor neurone disease, long term ventilation, and brain injury.

Assessment of severity and of response to treatment

Several assessment scales are available for use; however, the severity of symptoms can often be evaluated subjectively via discussion with the patient and/or carer and by observation. This is also an opportunity to assess patient preference and treatment goals. Pharmacological management and associated risk of side effects may not be acceptable/appropriate for all patients. Alternatives including practical aids, speech therapy, behaviour therapy and physiotherapy may also be considered.

Considerations for prescribing

The need for treatment should be established by an appropriate specialist clinician only, with the initial supplies coming from secondary care (i.e. AMBER 2 category).

Where drug treatment is indicated there is no specific evidence to support one particular treatment over another, and appropriateness and choice of treatment will depend on patient factors. All of the available pharmacological treatments work via antimuscarinic action, and therefore prescribers will need to review the appropriateness of treatment with co-existing conditions (e.g. urinary retention, constipation, glaucoma etc.) together with consideration of any other concomitant treatments that might contribute to the cholinergic burden. Doses should be titrated upwards to the desired level of dryness, as tolerated, or until maximum dose is reached.

Options for prescribing (all specialist initiation only)

Consider initial treatment with one of the options below

- For patients who fail to respond after dose titration, treatment should be switched to an alternative.
- Patients suffering central nervous system adverse effects (e.g. drowsiness, confusion) from treatment should be switched to glycopyrronium.

Hyoscine hydrobromide

Available as:

Patches 1.5 mg (Scopoderm)[®]

- This can have advantages over other treatments, e.g. ease of administration, and maintenance of steady state concentration, however, it can be too powerful and is difficult to titrate effectively.

- Usual dose = 1 patch to be applied behind the ear every 72 hours. Can titrate to a maximum of 2 patches changed every 72 hours if required for controlled of hypersalivation.
- Lower doses can also be used (e.g. ¼ patch every 72 hours), though if there are concerns re cognitive effects glycopyrronium may be preferred over reduced dose hyoscine hydrobromide patches (see below).
- The patch is to be applied to hairless area of skin behind ear; if less than whole patch required either cut with scissors along full thickness ensuring membrane is not peeled away or cover portion to prevent contact with skin.
- Hypersalivation is an unlicensed indication (licensed for travel sickness), and dosages above 1 patch, and patch cutting is “off-label”

Tablets (150 micrograms [Kwells Kids® and Joy-rides®] and 300 micrograms [Kwells®])

- Where hyoscine is preferred, but patches are not appropriate oral/sublingual therapy could be considered, although there is less experience than with patches.
- Titrate to a maximum of 300 micrograms three times a day
- Use in hypersalivation is off-label (licensed for travel sickness)

Glycopyrronium

For patients where there are concerns of cognitive adverse effects glycopyrronium may be considered as the first choice. Unlike the other antimuscarinics listed here, glycopyrronium does not cross the blood brain barrier and has a significantly lower risk of central nervous system adverse effects (e.g. confusion, drowsiness). It also has a lower incidence of tachycardia compared to hyoscine or atropine.

Available as:

Glycopyrronium bromide liquid 400 micrograms in 1 mL (Sialanar®) (320 micrograms in 1 mL glycopyrronium base) – NB doses here expressed as glycopyrronium bromide, but the main product packaging details dose of glycopyrronium base:

- Starting at 0.5 mg to 1 mg (1.25 mL to 2.5 mL) three times a day, titrating up to 2 mg (5 mL) three times a day if required.
- Licensed for use in hypersalivation in children with chronic neurological disorders, use in adults is off-label.

Glycopyrronium bromide liquid 1 mg in 5mL (Colonis):

- Starting at 0.5 mg to 1 mg (2.5 mL to 5 mL) three times a day, titrating up to 2 mg (10 mL) three times a day if required.
- Licensed for use in hypersalivation in children with chronic neurological disorders, use in adults is off-label.

As there are two separate glycopyrronium liquid products with different strengths, prescribing should clearly indicate the **strength and dose** to reduce the risk error.

NB: For adult in-patient administration glycopyrronium injection may be given orally/via feeding tube - this is also off label.

Atropine 1% eye drops administered sublingually

Has a short duration of action and there is a potential for morning rebound effects. It also has a bitter taste and there is the risk of overdose as the bottle is not easy to manipulate, and it is therefore inappropriate in patients with limited dexterity or cognitive impairment.

- 1-2 drops sublingually once daily in the morning, titrated to a maximum of 2 drops four times a day
- Use in hypersalivation, and route of administration are off-label

If no response, or insufficient response to antimuscarinics

Should a trial of two separate agents, including glycopyrronium fail, consider referral to ENT or maxillofacial surgery for surgery or intraglandular botulinum toxin as per [APC recommendation](#) (hospital only prescribing).

References/useful resources:

1. Hypersalivation – what drug treatment options are available? Specialist Pharmacy Services Medicines Q&A August 2017
2. Parkinson’s disease in adults NG71 National Institute for Health and Care Excellence July 2017.
3. Cerebral palsy in under 25s: assessment and management NG62 National Institute for Health and Care Excellence Jan 2017.
4. Motor neurone disease: assessment and management; NG42 National Institute for Health and Care Excellence Feb 2016.
5. British National Formulary for Children. Available online at: <https://www.medicinescomplete.com/#/browse/bnfc> (accessed 7th June 2019)