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MFT Management of Hypersalivation and Sialorrhoea in Adult Patients

Background

Hypersalivation is the excessive production of saliva, whilst sialorrhoea refers to involuntary loss of saliva from the mouth i.e. drooling. The pathophysiology of sialorrhoea is often not clear but is often associated with neuro-muscular dysfunction, 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. In addition to be uncomfortable for the patient it also can put some patient cohorts at risk of aspiration.

Purpose

This guideline is intended to offer information on the management of hypersalivation and/or sialorrhoea in adults with neuromuscular disorders. Common conditions contributing to hypersalivation/sialorrhoea are Parkinson's disease, motor neurone disease, use of long-term ventilation, and brain injury.

Assessment

All adult patients with suspected or visible hypersalivation/sialorrhoea, and/or saliva aspiration should have an assessment by a Speech and Language therapist.

An assessment should also be done for reversible factors contributing to hypersalivation, including oral/dental inflammation, uncontrolled gastro-oesophageal reflux disease, or other medications.

Non-pharmacological interventions:

For certain patient groups Speech and Language Therapists can offer advice around behavioural strategies in self-management of sialorrhea, although these may become limited over time. These strategies include adjusting head posture and lip closure, chewing gum for swallowing stimulation, visual reminders and cueing methods as a reminder to swallow saliva more frequently. Promoting peri-oral hygiene is also important including good hydration and oral hygiene, opting for wrist bands and handkerchiefs whilst reducing tissue use and wiping action. Physiotherapists and Occupational therapists may be able to offer advice around supporting head and trunk position in the management of sialorrhea.

Pharmacological Interventions:

The need for treatment should be established by an appropriate specialist clinician with experience in the management of hypersalivation/sialorrhoea in patients with neuromuscular disorders.

All of the available pharmacological treatments have anticholinergic activity, and therefore prescribers will need to review the appropriateness of treatment with co-existing conditions (e.g. urinary retention, glaucoma etc.) together with consideration of any other concomitant treatments that might contribute to the anticholinergic burden. Blockade of cholinergic muscarinic receptors reduces salivary volume, but a lack of selectivity may result in widespread and undesirable central and peripheral effects, including drowsiness, restlessness, irritability, urinary retention, constipation, and flushing.

Where drug treatment is indicated with no specific evidence to support one treatment over another. Appropriateness and choice of treatment will depend on several issues; the cost of the product with the most cost-effective options used preferentially, the availability of the product and various patient factors (effectiveness, tolerance etc). Doses should be titrated upwards to the desired level of dryness, as tolerated, or until maximum dose is reached.

All of the listed options for pharmacological management of hypersalivation/sialorrhoea are off-label uses of the medicines.

Antimuscarinics in Parkinson's Disease

Antimuscarinic agents should be used with caution in those with Parkinson's disease as they may exacerbate confusion, particularly in older patients. Additionally, some patients may already be established on other anticholinergic agents for management of motor symptoms. If treatment is thought to be in the best interests of the patient use the lowest possible doses and regularly review for side effects. Patients with hypersalivation should be under the care of a Parkinson's disease specialist nurse to facilitate assessment by Speech and Language Therapists.

Antimuscarinics in Dementia

Antimuscarinic agents should be avoided as they may exacerbate cognitive impairment in those with dementia and may also counteract the effects of cholinesterase inhibitors used in the treatment of dementia. Any decision to use an antimuscarinic agent must be carefully assessed by a clinician experienced in the management of dementia.

Treatment Failure

Where there is an inadequate response to maximal doses of at least 2 antimuscarinic agents, or where antimuscarinic treatment is limited by side effects, is contraindicated or otherwise inappropriate, consideration should be given to interventional management. This includes referral for consideration of intra-salivary administration of botulinum toxin, or radiation therapy. Urgent assessment for botulinum toxin therapy may also be considered where hypersalivation interferes with the ability of a patient to tolerate critical therapies such as non-invasive ventilation.

Outcome Monitoring

There are no standardised measures for hypersalivation/sialorrhoea severity in use in NHS clinical practice, monitoring of improvements following pharmacological interventions will generally be guided by clinician assessment and patient reported symptoms. There are a few monitoring tools available to practitioners to help objectively assess impact of behavioural and pharmacological interventions, such as the Drooling Severity and Frequency Score (DSFS). This may also be useful as supporting evidence that a patient has not responded to initial therapy and may need referral for more specialist input.

Referrals for botulinum toxin

- referrals can be made to Dr Basu, Consultant in Neuro-Rehabilitation (bhaskar.basu@mft.nhs.uk) or to Sonia Pinnock, Medical Secretary to Dr Basu (Sonia.pinnock@mft.nhs.uk)
- For patients under the care of the North West Ventilation Service; refer to NWVU.admin@mft.nhs.uk, for the attention of Debbie Freeman or Saba Bokhari
- Referrals to appropriate Service can also be made via local Greater Manchester protocol

Referrals for External Beam Radiation Therapy

Note patients dependent on NIV are not suitable for this treatment

Therapy is offered under the Christie Hospital by Dr Andrew Sykes (Consultant Clinical Oncologist) and Dr David Thomson (Consultant Clinical Oncologist).

Referral: via email to Clinical Secretary: Maria Nuttall, 0161 291 6238, Fax: 0161 291 6644
Email: maria.nuttall@mft.nhs.uk *or* Lesley Drain (Medical Secretary Clinical Oncology, contact for Dr Sykes) Lesley.drain@nhs.net

Pharmacological Options for Hypersalivation Management:

Consider initial treatment with one of the options below (*see appendix 1*). 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), or considered at high risk of these effects should be treated with glycopyrronium. **Where there is no preference for a first line antimuscarinic on clinical grounds, hyoscine is the least expensive and should be chosen first**.

Drug	Product name	Form	Strength	Dose	Comments
Hyoscine hydrobromide	Joy-rides (150 micrograms) Kwells (300 micrograms)	Tablets	150microgram 300microgram	300 micrograms two - three times a day. (Maximum dose 300 micrograms three times a day)	Tablets can be chewed to exert a stronger local effect. Cheapest option.
Hyoscine hydrobromide	Scopoderm	Patches	1.5mg (delivers 1mg hyoscine as base drug over 72 hours)	Start with ½ - 1 patch, changed every 72 hours. Titrate up to a maximum of 2 patches changed 72 hourly. Apply 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.	Easy to apply, convenient in swallowing difficulty. May be tricky to titrate effectively.
Glycopyrronium bromide	N/A	Oral Solution	variable by manufacturer (unlicensed 'specials' may be available)	Start at 200 micrograms three times a day and titrate up to a maximum of 2 milligrams three times a day.	Doesn't cross blood brain barrier – preferred in patients who experience or at high risk of cognitive side effects. Less risk of tachycardia than with other agents. Various strengths of glycopyrronium liquid exist – always prescribe by dose rather than volume.
Atropine	N/A	Eye drops	1%	Starting at 1-2 drops two – three times daily placed on or under the tongue, titrate up until adequate effect to a maximum of 4 drops four times a day	Bottle may be difficult to manipulate for those with dexterity issues. Drops can be added to a small volume (5mL) of water and used as a mouthwash if the patient finds this easier. Tastes bitter. 0.5mL unit dose preservative free (Minims) may be a more cost effective option than 10mL bottle

Alternative agents

There are several other medications that exert anticholinergic effects that have been used in management of hypersalivation. These include amitriptyline, procyclidine and trihexyphenidyl. Most of these are not solely anticholinergic in their activity, but they may be useful where co-morbidity exists alongside hypersalivation (such as pain or difficulty sleeping). These should be initiated by specialists with consideration given to interactions and other patient specific cautions/contraindications.

Weaning off Anticholinergic Agents Following Interventional Procedures for Hypersalivation/Sialorrhoea

Following interventional procedures for hypersalivation, doses of anticholinergic medications may be reduced down with the aim of stopping, although complete cessation may not be achievable for all patients. Depending on the agent in use, the dose should be reduced incrementally every 24 – 48 hours after symptoms begin to resolve, until the desired level of dryness is reached.

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Appendix 1: Hypersalivation Pathway