Taking the secret out of secretions - developing evidence for the management of oro-pharyngeal secretions in MND

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Continuing the Mission of the Sisters of the Little Company of Mary

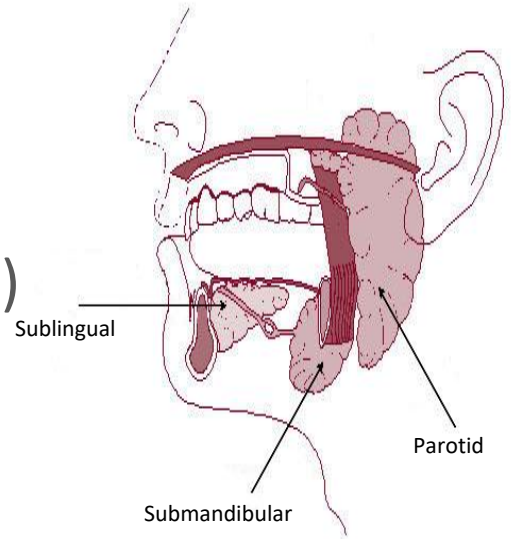
Outcomes

- Knowledge of secretion management issues experienced in MND and typical interventions
- Knowledge of current research (or lack there of)
- Overview of the research I'm currently conducting at the Victoria's Statewide Progressive Neurological disease service based at Calvary Health Care Bethlehem

Oro-pharyngeal secretions - Saliva

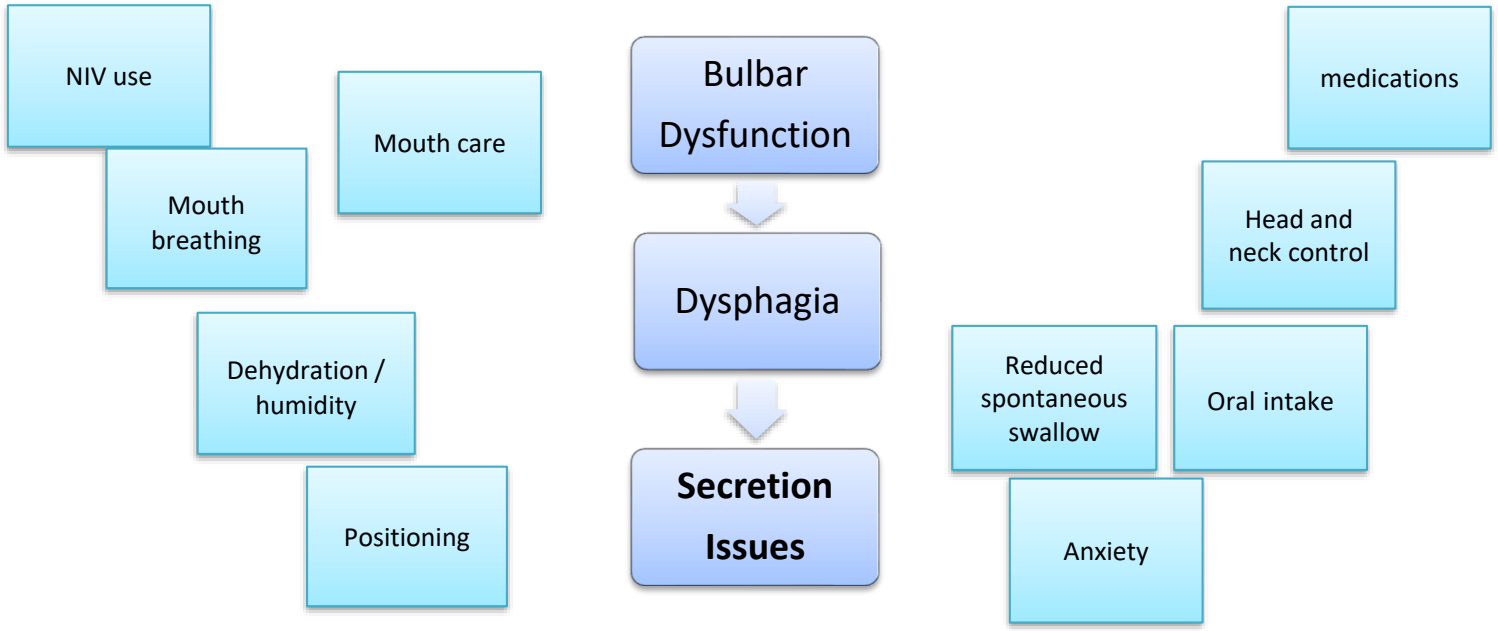
Major Salivary Glands

- Submandibular
  - Secrete 60%
  - Mostly thin / watery (some viscous)
- Parotid
  - Secrete 25%
  - Thin / Watery
- Sublingual
  - Remaining saliva
  - Predominantly thick mucous



500ml to 2l daily

Secretion issues in MND



- In MND not more or less saliva produced.
- Secretion issues due to muscle weakness causing difficulties swallowing (Hobson et al 2013)

Secretions issues

Combination of these factors can lead to issues:

- Thin secretions
- Thick secretions
- Xerostomia – Dry mouth
- Combination

Resulting in:
Drooling, coughing, choking, discomfort, oral coating, night waking, sputum plug, difficulty chewing/swallowing and communicating

It has been estimated that 50% of ALS patients suffer from problematic secretions (McGeachan et al 2016)

Secretions – Management strategies

- Selected based on thorough Ax. Need clarification of the issues - *thin or thick? Where? When? Distress levels?*
- Different treatment for thin secretions, thick secretions and dry mouth
- A combination of both is typical and ever changing picture with disease progression
- MDT approach due to complexity

Thin secretions - options

- Advice re: swallow mgmt. to continue oral intake
- Take frequent sips of liquid to encourage you to swallow
- Positioning (head strap, neck collars, bed wedge) – PT and OT
- Occasional swabbing
- Reducing stimulation (tissue stuffing, brushing teeth further from bedtime etc)
- Waterproof clothing protector (Drycare clothing protectors)
- Natmur salts
- Medications – anticholinergics
- Botox and radiotx to the salivary glands
- Assisted cough (PT)

Thick Secretions - options

- Advice re: swallow management
- Review and advice re: positioning (Physio and OT)
- Dark Grape Juice (proteolytic enzyme)
- Pineapple Juice (proteolytic enzyme – bromelain)
- Papaya (proteolytic enzyme – papain)
- Review of fluid intake (Dietician)
- Normal Saline (Nebuliser)
- Bisolvon (Mucolytic) Robitussin (Expectorant)
- Assisted cough (Physiotherapy)

NICE Guidelines

Assessment and management of MND (2016, updated 2019)

- No evidence found evaluating the interventions for treating thick saliva in MND or indirect populations
- For the treatment of thin saliva evidence was retrieved evaluating the efficacy of botox, glycopyrrolate and benxtropine only
- Glycopyrrolate – 3 studies, indirect population, carer rated benefit, clinical harm – moderate/very low quality (Arbouw et al 2010)(Mier et al 2000)(Zeller et al 2012)
- Benztropine – 1 study, indirect population, carer rated benefit, clinical harm – very low quality (Camp-Bruno et al 1989)

Current Research

- Cochrane review in 2011
  - Looking for research into interventions including botox, radiotherapy, complimentary therapies
  - Indentified only one randomised control trial – Randomised double blind study for botulinum toxin type B for sialorrhea in ALS patients (Jackson et al 2009)
  - Primary outcome – impression of change dichotimised to either improvement or not at week 8 post tx
  - Secondary outcome – included change in volume of saliva produced (funnel and tube 5 mins)

*stat sig at 2 and 4 weeks not 8

Current Research

- UK Survey 2017
  - A multicentre evaluation of oropharyngeal secretion management practices in ALS (McGreachan et al 2019)
  - 119 patients
  - Patients describe thin secretions, thick secretions or both
  - For thin secretions 5 different anticholinergics prescribed, and botox used
  - For thick secretions carbosciteine syrup, fruit juices, nebuliser, papaya, hydration, speech pathology, positioning collar, suction and swabs.

Practice

- There is a significant lack of research into the efficacy of any treatment for oro-pharyngeal secretions and therefore no evidenced-based guidelines

- The management of oro-pharyngeal secretions can be inconsistent and is usually based on a trial-and-error approach and clinician experience.

Taking the secret out of secretions - Objectives

- Two main objectives:
  - to identify the interventions most commonly prescribed for the management of oro-pharyngeal secretions for patients with MND
  - to review the efficacy of these interventions

Method

- (WHOQOL-BREF) will be completed by the participant
- “Record of Secretion Management Recommendations” will be completed by the clinician.
- One, three and eight week intervals following participants will complete the “Secretion management follow up questionnaire”.
- WHOQOL-BREF) will be completed by the participant at 12 weeks

Outcome measures

- The primary outcome measure is subjective improvement as reported by the study participants (dichotomised to improvement or not and recorded at one, three and eight weeks)

- The secondary outcome measure is Quality of life of participants as measured by the World Health Organisation Quality of Life (WHOQOL) –BREF completed by participants at the start of the study and again 12 weeks after its first completion

The story so far…..

- 17 participants
- 5 have completed up to week 8 follow up.

	Recommended	Week 1	Week 3	Week 8
1	Thin Oro-Pharyngeal Natmur salts and probanthine	Natmur and probanthine No improvement	DGJ and natmur and probanthine No improvement	DGJ and natmur and probanthine No improvement
2	Thick pharyngeal Dark Grape Juice and Papaya	DGJ Improvement	DGJ Improvement	DGJ Improvement
3	Dry mouth Grapeseed oil	Grapeseed oil Improvement	Grapeseed oil Improvement	Grapeseed oil Improvement
4	Thin Oro-pharyngeal Amitriptyline	DGJ No improvement	DGJ Stopped taking as “high in sugar”	DGJ Stopped taking as “high in sugar”
5	Thick oro-pharyngeal Saline nebs and Pineapple juice	Saline nebs and pineapple juice Improvement	Saline nebs and pineapple juice Improvement	Saline nebs and Pineapple juice Improvement

Challenges

- completing research alongside clinical load
- Response rate and times from participants
- Lots of new learning – research processes, ethics application

Summary

- Oro-pharyngeal secretions are often described as the most distressing symptom for patients with MND
- Limited research and no evidence based guidelines on how to manage them
- In absence of evidence base guidelines we're gathering information to guide our practice and that will hopefully form the basis of more effective studies in future

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