

Introduction

One in six people will experience a stroke in their lifetime, and 59% of strokes occur in the older person (69+ years)². Deaths related to stroke have declined by 49% in the past 15 years due to better prevention and advancing treatment². However, as a result of this strokes account for 2.6 million hospital bed days per year³ - thus indicating that although survival rates are on the rise there is a long recovery process. In Wales the prevalence rate of stroke survivors in the community is 2.12%⁴.

Unfortunately many individuals post stroke experience multiple co-morbidities. It is estimated almost 2/3 of stroke survivors are deemed disabled and require ongoing care⁵. This will have an impact on oral health through: oral risk factors, access to oral care, ability to communicate, ability to co-operate and legal and ethical barriers¹.

This case report aims to highlight the importance of a multi-disciplinary approach to oral care in patients within Stroke Rehabilitation Unit (SRU) despite a global pandemic.

Case Report

Medical History

- Left Frontal Haemorrhage with Mass Effect
- Hypertension
- Hypercholesterolemia
- Stable Angina
- Type 2 Diabetes Mellitus
- Dysphagia

Level 4 food, Level 2 liquid - see 'Figure 1'
DNA CPR in place

Dental History

Not currently registered with a GPD but was in the process of being referred to CDS pre-Stroke. Unable to recall last dental attendance.

Limited experience of complex restorative treatment, multiple extractions.

Male
75 years

Medications

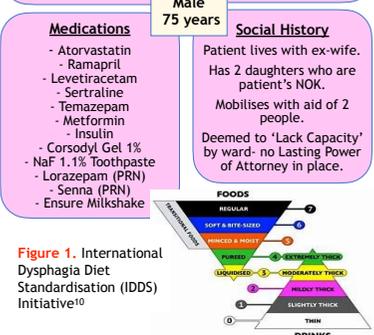
- Atorvastatin
- Ramipril
- Levetiracetam
- Sertraline
- Temazepam
- Metformin
- Insulin
- Corsodyl Gel 1%
- NaF 1.1% Toothpaste
- Lorazepam (PRN)
- Senna (PRN)
- Ensure Milkshake

Social History

Patient lives with ex-wife. Has 2 daughters who are patient's NOK.

Mobilises with aid of 2 people.

Deemed to 'Lack Capacity' by ward - no Lasting Power of Attorney in place.



New Patient Examination

- Referral made by Senior Sister on SRU due to concern regarding declining food intake, and query aspiration risk from loose tooth.
- Patient seen on the ward (Domiciliary Visit) in their wheelchair.

Presenting complaint: Loose tooth on the lower left hand side, most posterior tooth. Making eating uncomfortable.

Examination:
E/O: No swelling, no lymphadenopathy, no tenderness.
TMJ: No evidence of clicking, deviation or pain. Good range of movement.
I/O: Soft Tissues (Buccal Mucosa, Palate, Tongue and Floor of Mouth) - NAD.
Gingiva - generalised white plaque (leukoplakia) covering buccal aspects of gingiva in upper and lower arches.
Hard Tissues - see 'Figure 2' for dental charting.

- Poor oral hygiene with generalised plaque deposits.
- Moderate Xerostomia with Challacombe score of 5.

Figure 2. Dental charting from New Patient Examination

- ### Stabilisation Treatment Plan
- Extraction** - LL7 (Grade III mobile; potential aspiration risk, and cause of reducing food intake).
 - Prevention**
 - High fluoride toothpaste (1.1%)^{6,7,8}.
 - Corsodyl 1% Gel to be applied to the gingiva at an alternate time to toothbrushing with NaF toothpaste^{7,8}.
 - Oral hygiene instructions for staff.
 - Review** - 1/52 post-XLA to assess healing and patient wellbeing following extraction. On review - patient was eating well and had improved mood.
 - Hygiene appointments** - OHI, scaling and topical fluoride 3/12.
 - Recall** - 3/12 based on caries and periodontal risk.

Dental Challenges in Stroke

There are many dental challenges that can act as barriers to achieving good oral health in patients post stroke, these are outlined in 'Table 1'. As a result a multi-disciplinary approach is required to be adopted, and the roles different individuals involved in this patient-centred care are shown in 'Figure 3'.

- | Access | Nutrition | Oral Hygiene | Cognitive Impairment | COVID-19 Pandemic |
|--|--|--|---|---|
| <ul style="list-style-type: none"> Poor mobility - patient relies on aid of 2 people in order to mobilise. Carer - patient would rely upon carers to access dental care in a surgery (i.e. transport and organisation of appointment). Inpatient - at the current time following risk-assessment, domiciliary care deemed most appropriate treatment modality. | <ul style="list-style-type: none"> Reduced Intake - due to dental discomfort, which patient didn't verbalise to staff, food intake reduced resulting in increased frailty. Need for exploration of need for artificial feeding. High-sugar intake - to increase calorie intake build-up shakes are prescribed increasing the patients caries risk. Dysphagia - switch to thicker foodstuffs which remain in the oral cavity for longer time periods, increasing caries risk. | <ul style="list-style-type: none"> Reduced Dexterity - due to muscle weakness post stroke the patient's manual dexterity has reduced. Unable to effectively brush independently. Staff completing oral hygiene - care resistive behaviour in evenings, busy environment, high turnover of staff, lack of training. Reduced Saliva - increased caries risk. | <ul style="list-style-type: none"> Consent Difficulties - as an impact of the stroke, patient unable to retain information or weigh up the information provided in order to give valid consent. Due to acute loss of capacity no LPA or ACP in place. | <ul style="list-style-type: none"> Reduced Dental Activity - aerosol generating procedures were stopped for a period, and the service was urgent treatment only; thus routine care (i.e. scaling) was missed. Communication - due to the increased amount of PPE that is required to be worn good communication is more difficult to achieve. |

Table 1. Challenges faced in achieving oral health in patients post-Stroke.



Family/Carers

- On patient discharge educated and trained on the provision of oral care.
- Highlighted the importance of organising and enabling access to dental treatment in the community to prevent oral health decline/feeling of abandonment⁹.

Figure 3. MDT approach for oral care post-Stroke.

Discussion

Maintaining optimal oral health in hospital inpatients is of great importance as poor oral health can be linked to: pneumonias, poor nutritional intake and longer hospital stays⁸. This can be exacerbated in patients post stroke as they are at higher risk of developing oral related problems due to a combination of medical, cognitive and physical disabilities. It is imperative that good oral hygiene is maintained in these patients, and this has been reflected in national oral care programmes (i.e 1000 lives plus). Good oral care can reduce oral bacterial load and maintain oral comfort⁹. In addition, we should be mindful of any loose teeth or restorations that could also be an aspiration risk or affect nutrition intake.

Prior to the COVID-19 pandemic there was a good relationship between SRU and the dental team based within the hospital. Unfortunately, during the pandemic many staff were redeployed and dental service was restricted to emergencies only. Therefore, "high-risk" inpatients were unable to access routine dental care and limited to basic oral hygiene provided by ward staff. We are aware that mouth care is frequently overlooked and not prioritised on hospital wards. This can be due to a lack of training, appropriate resources and time⁹. This can cause dental decline and impact on medical issues as a consequence.

Dental input from a 'Stroke Skilled Dental Team' during this time may have negated dental-linked issues and should be considered if future restrictions occurs⁹.

This case study highlights the importance of an MDT approach to ensure safety of this vulnerable patient group. Engagement of staff members and training so that they feel supported and confident in the delivery of this care is paramount.

Conclusion

An MDT approach is essential in maximising oral care of patients who have experienced a stroke. Improving the education of ward staff, and eventually family/carers upon discharge, is imperative to not only ensure good oral health, but also highlights what role they can play in the process. This case highlighted that despite a global pandemic, and the knock on effects this has had on dentistry, it is important that the wider team still take ownership of oral care within Stroke Rehabilitation. This is because oral factors such as pain, loose teeth and poor oral hygiene can all have a great impact on the patients long-term recovery.

References

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