

## Background

- Dysphagia is a multi-factorial consequence of numerous medical conditions such as Parkinson's disease, stroke and dementia<sup>1,2</sup>.
- Dysphagia is a common symptom of stroke survivors with studies reporting incidence of 23%-50%<sup>3</sup>.
- Aspiration pneumonia is a pulmonary infection occurring due to the entry of foreign fluid/debris into the lower respiratory tract<sup>3</sup>.
- A swallowing impairment can lead to serious complications, such as aspiration pneumonia (AP), which is a risk factor for mortality in the elderly<sup>2</sup>.
- There is significant evidence to support good oral hygiene and regular dental care decreases the risk AP in people with dysphagia<sup>4</sup>.

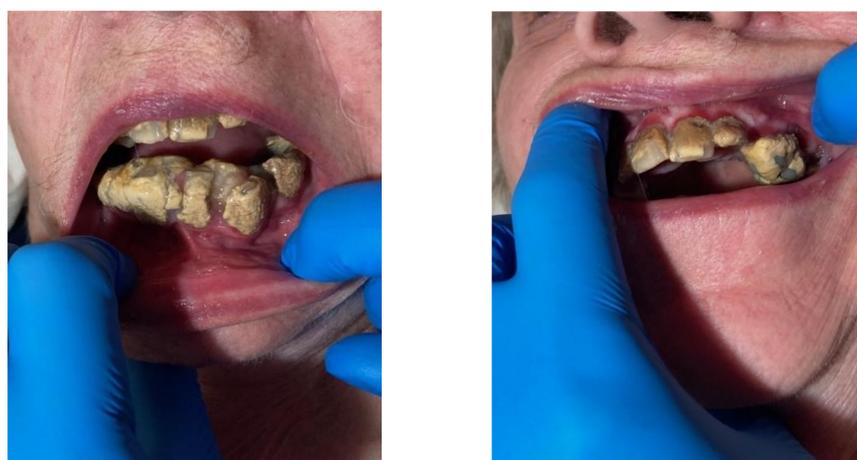


Figure 1. Initial clinical photographs. The extent of calculus is shown.

## Presenting Problem

- A 78-year-old female diagnosed with dysphagia following a stroke and percutaneous endoscopic gastrostomy (PEG) fed, presented with significant calculus deposits, halitosis, and grossly inflamed gingiva.
- Complication post stroke including poor manual dexterity and mobility left this patient reliant on carers to perform daily oral hygiene.
- There was concern the patient was at risk of AP from bacteria load present, but invasive treatment posed similar risks.
- There was uncertainty from care staff and son regarding her capacity to understand the complex decision related to removing calculus.

## Clinical Details

- Examination was conducted with a bite-stick and single use plastic dental mirror.
- This revealed substantial calculus deposits encasing both the buccal and lingual/palatal aspects of her upper and lower teeth as seen in figure 1.
- This calculus was impinging on tongue space and causing the lower lip to distend.
- Trauma to left buccal mucosa was noted due to sharp deposits as seen in figure 1.
- A visual examination of any tooth surface was not possible due to the extent of calculus.
- The gingiva visible was swollen and grossly inflamed.

## Clinical Management

- Several domiciliary visits were carried out to capacity, oral hygiene measures and a plan was made to remove the calculus.
- Following assessment, the patient was deemed to have capacity.
- Calculus will be removed using hand instruments including a Mitchell's trimmer and high volume suction whilst the patient is in an upright position. Gauze will be used to protect the airway. See figure 2 for equipment.
- These provisions will be made during treatment to reduce the risk of AP.
- 1% Corsodyl gel was prescribed, and staff were educated on the importance of dental care for this patient.

Excellent oral hygiene reduces risk of aspiration pneumonia



Figure 2. Photographs of equipment. (A) Mitchell's Trimmer. (B) Portable suction and clinical waste. (C) Hand Scalers.

## Discussion

- Many studies have found poor oral hygiene to be one of the main risk factors of AP in care homes<sup>5,6</sup> and that AP is a common cause of death in elderly people<sup>2</sup>.
- Robust evidence concludes that rigorous oral hygiene regimes therefore can reduce the incidence of AP in the elderly<sup>5</sup>, hence reduce risk to life. Educating patients and caregivers on the importance of excellent oral hygiene is key<sup>3</sup>.
- It is also recognised that dental procedures may increase the risk of fluids and debris being introduced to the respiratory system, especially if dysphagia is unknown to the dentist<sup>1</sup>.
- When undertaking invasive procedures, precautions must be taken to reduce the risk of this, such as avoiding a supine position, use of quick setting dental materials, using gauze or dental dam and having high volume suction in place<sup>1,4</sup>.
- A risk-benefit analysis must be made when considering the removal of high bacterial load for a dysphagic patient.
- This case highlights the importance of good oral care and reduction of oral pathogens in order to reduce risk of AP.