

Practical Aspects of Managing Oropharyngeal Dysphagia in the Community

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Oropharyngeal dysphagia (OD) is common in the community and, if inappropriately managed, can increase the risk of aspiration, dehydration and malnutrition. Indeed, up to about half of dysphagia patients are malnourished¹ and three-quarters are dehydrated.² Many patients with OD receive texture-modified diets, which reduce aspiration risk, but might contribute to malnutrition.³

To meet their nutritional requirements, many patients with OD are prescribed nutritional supplements. Texture recommendations may necessitate thickening of these supplements. However, thickening standard supplements typically produces unappetising drinks with inconsistent viscosities.⁴ In contrast, pre-thickened supplements provide guaranteed consistency and are more convenient. As the case history summarised in this article illustrates, managing OD in the community depends on effectively implementing three principles:

1. Ensuring systems are in place to recognise OD promptly and to facilitate rapid referral to the appropriate healthcare professional
2. Reviewing the swallowing and nutritional status of patients with OD regularly
3. Ensuring that patients with OD receive the right foods and, if required, supplements, at the right time to manage malnutrition and improve quality of life.

Introduction

OD (difficulty swallowing in the oral or pharyngeal phases) can arise from numerous mechanical (e.g. head and neck cancers) or neurological (e.g. traumatic brain injury, stroke, Parkinson's disease, dementia and motor neurone disease) causes.^{5, 6} This article highlights the experiences of Mabel*, an 83-year-old stroke survivor who developed dysphagia, aphasia and right-sided hemiparesis. Mabel's case illustrates the importance of effectively managing OD in nursing and care homes, in particular, and in the community more generally.

Immediately after her stroke, Mabel required nasogastric feeding. However, when discharged from hospital, she was managing a puree diet and stage 2 fluids. There was no cause for concern regarding her nutritional intake before discharge and no community follow up was arranged. Mabel was previously independent. However, she now resides in a care home

and requires assistance for many tasks, including eating and drinking.

Mabel's family remember her as "short and stocky", with a passion for collecting costume jewellery that she displayed all over her room in the care home. However, despite encouragement from the care home staff, her oral intake was poor, she had suffered recurrent urinary tract infections (UTI) and her sacral area was red but intact. This resulted in a referral to the community dietitian for further assessment.

On admission to the care home, her body mass index (BMI) was 21.9 kg/m². However, on initial assessment by the community dietitian 11 months after discharge from hospital, her BMI was 19.8 kg/m². She had lost 9.3% of her body weight, not quite reaching the 10% over 3-6 months that is considered to be clinically significant. At first sight, therefore, Mabel's weight loss might not seem cause for concern – but, as discussed below, her BMI did not paint the whole nutritional picture.

Definitions and prevalence of dysphagia

Patients with OD experience difficulty transferring food safely from their mouths through the pharynx and into the oesophagus. Indeed, up to 75% of patients with dysphagia show impaired swallowing safety, whereby the bolus potentially reaches their laryngeal vestibule (the larynx above the vocal folds). Between 20% and 25% of the boli in the laryngeal vestibule leads to aspiration.⁶

There is no definitive figure for the prevalence of OD in the community; estimates depend on the population studied and the definitions employed. Furthermore, dysphagia can be transient, intermittent, persistent or progressive. Therefore, collecting data at a certain point may not capture all the affected patients. Nevertheless, OD is undoubtedly common in the community, as well as in care and nursing homes. Evidence to date suggests that 27% of people with chronic obstructive pulmonary disease (COPD), 68% of people with dementia in homes for the elderly, and up to 78% of stroke survivors develop dysphagia.⁷ Overall, between 50% and 75% of nursing home residents generally have been reported to exhibit dysphagia.⁷ Of those stroke patients who develop dysphagia, moderate to severe swallowing difficulties persist in 76%, and 15% will experience profound dysphagia.⁷

OD is associated with poor outcomes. For example, dysphagia following a stroke increases mortality three-fold and the risk of aspiration pneumonia between six- and seven-fold.⁸ These poor outcomes partly arise from the malnutrition and dehydration that is often associated with OD.

Malnutrition and OD

Malnutrition is common among patients with dysphagia. Evidence suggests up to 48% of dysphagia patients develop malnutrition¹ and 75% are dehydrated.² Specifically within long-term care, up to 54% of people with dysphagia have been reported to be malnourished.⁹ Stroke patients are a vulnerable group. For instance, research suggests that a stroke patient with dysphagia is 2.4 times more likely to be malnourished than survivors with normal swallowing.¹⁰

Numerous factors contribute to the increased risk of malnutrition and dehydration in patients with OD. For example, motor, perceptual and cognitive deficits can compromise feeding. In Mabel's case, the aphasia meant that she could

neither express her food preferences nor interact with other residents during mealtimes. Mabel is right-handed and the impaired dexterity arising from her right-sided hemiparesis significantly reduced her ability to self-feed. Additionally, her dysphagia meant that she had a much slower oral phase and experienced 'taste fatigue', which significantly reduced her intake.

Psychological factors might also contribute to malnutrition in patients with OD. Indeed, the need for food modification is typically associated with a decline in quality of life.¹¹ For instance, many people miss the crunchy, crispy textures that are an important part of modern diets (such as with oven-cooked foods and bread). In my experience, many patients with OD who need texture-modified foods initially favour breakfast foods, such as porridge, and desserts that are already of a suitable texture as part of a 'normal' diet. In addition, many people find adjusting to changes in location – for example, admission to a nursing home – difficult.

The care home staff advised that, on admission, Mabel was able to mobilise to the dining room to share mealtimes with the other residents. However, her communication difficulties and decline in mobility had resulted in her becoming increasingly tired and withdrawn. When she was first seen by the community dietitian, she was having her meals in her room and required additional assistance with eating and drinking. Not surprisingly, this further demoralised this previously independent lady.

Thickening food and fluids are an important part of dysphagia management. Thickening creates a cohesive bolus that improves swallowing safety.^{12, 13} Indeed, studies have shown that thickening liquids reduces aspiration risk by 50% to 87% depending on the viscosity.¹³ However, texture-modified diets might contribute to malnutrition. Wright and colleagues compared the nutritional status of 30 patients who ate a texture-modified diet and 25 patients who ate a normal hospital diet. The texture-modified group had significantly lower daily intakes of energy – 3877 kJ (927 kcal) and 6115 kJ (1462 kcal) respectively – and protein (40 g and 60 g respectively). The texture-modified dietary group showed daily deficits in energy (357 kJ; 85 kcal) and protein (22 g).³

Texture-modified diets might fail to meet nutritional requirements for several reasons. Firstly, patients and carers might limit the diet to foods they know they can

modify or that they can tolerate.¹⁴ Secondly, pureeing food requires the addition of fluid, which increases the volume and reduces the nutritional density. For example, a pureed chicken breast might become double the original portion, while providing the same amount of energy and protein. Thirdly, patients may take longer to eat a pureed meal, which can result in fatigue and reduces their intake.

Current practices in the management of malnutrition in patients with dysphagia

Ideally, carers or catering staff should adapt standard food to meet the needs of people with dysphagia. This involves modifying the texture to suit individual requirements and taking care to ensure adequate provision of macro- and micronutrients. This requires, however, a good understanding of nutrition and a level of cooking skills from carers that many in our society do not possess (as they rely heavily on prepared oven foods and ready meals). Alternatively, several best-practice kitchens in the UK prepare an appetising range of texture-modified, nutritionally complete foods, which can be bought in and regenerated when needed.

The Care Quality Commission advocates providing meals individualised to the person, taking into account their specific needs and preferences. In reality, the catering staff in a busy nursing home with a high percentage of patients with dysphagia will struggle to meet this recommendation. In my experience, there is a pressing need to educate catering staff in many nursing homes about the nutritional needs of patients with OD.

Mabel was not keen on her puree diet and stage 2 thickened fluids. Care staff explained the importance of thickening her fluids and, although she accepted this, her usual intake of five or six cups of tea per day had become just three. Her poor fluid intake contributed to repeated episodes of UTIs, which, in turn, further undermined her nutritional status. Mabel has a sweet tooth and enjoyed her porridge and desserts, but despite encouragement she refused to eat her pureed meals. In recent months, Mabel became increasingly fatigued and is usually asleep when the evening meal is served.

In Mabel's care home, staff had recognised the need to fortify her pureed diet; unfortunately, they only added cream and butter to her porridges and puddings. This increased the calorific intake, but did not address the deficit of micronutrients or protein that was leading to muscle wastage,

causing fatigue and reducing her functional ability. At this point, Mabel was refusing to mobilise due to fatigue and her sacral area was becoming reddened, potentially heralding a pressure sore.

Mabel, in common with many patients with OD, needed a supplement to make up her nutritional deficit. In Mabel's case, the aim was to address the decline in muscle mass and prevent pressure sores. I recommended that Mabel take two 125 ml stage 2 supplements daily, providing 612 kcal, 24 g protein and 250 ml fluid. In addition, her GP prescribed a vitamin and mineral supplement and the care staff encouraged her to maintain her fluid intake.

Mabel's family had been very concerned with her deterioration. A telephone review four weeks after she started taking the supplements alongside her diet revealed that Mabel was meeting her nutritional requirements, was gaining weight and had become more engaged in her surroundings. The family were happy that she was improving and the cycle of deterioration had been halted. I arranged an educational session with the catering staff, who then worked with Mabel's family to identify foods that she enjoyed before her stroke and that could be made to a suitable texture, such as cottage pie.

Advantages and disadvantages of pre-thickened supplements

Thickening a standard supplement to a safe, uniform consistency by adding a powder thickener can prove extremely difficult. This is demonstrated by Glassburn and colleagues, who asked 23 speech and language therapists (SLTs) experienced with thickening liquids for dysphagia to mix multiple solutions to syrup, custard and pudding consistencies. Viscometer measurements indicated that the SLTs were inconsistent in their attempts to thicken liquids over time in the same person and between professionals.⁴

The difficulties might arise, in part, because supplements are nutrient dense, with elevated levels of fat and protein and reduced free water. As such, many supplements are more viscous than water, which healthcare professionals might consider 'naturally thick' or 'slightly thick'. The increased viscosity means that even distribution of the thickener throughout the liquid is difficult to achieve

and lumps may form. In addition, gum-based thickeners also form a polymer with calcium, which contributes to the lumpy consistency and means that thickening milk takes longer than thickening water.¹⁵

Against this background, pre-thickened supplements offer several advantages, including convenience, being nutritionally complete and having a consistent, safe texture. However, the choice of flavours is relatively limited compared with standard supplements, which also offer several nutritional variants (e.g. high protein).

Conclusions

In conclusion, Mabel's case demonstrates that best-practice care of patients with OD in the community depends on implementing three principles:

1. Ensuring systems are in place to recognise OD promptly and to facilitate rapid referral to the appropriate healthcare professional
2. Reviewing the swallowing and nutritional status of patients with OD regularly
3. Ensuring that patients with OD receive the right foods and, if required, supplements, at the right time to manage malnutrition and improve quality of life.

In many cases, however, these principles might not be realised fully in community care. For instance, many patients with OD receive texture-modified diets, which may not include the variety of foods required to meet their macro- and micronutrient needs. Ideally, catering staff should have the appropriate knowledge to optimise the nutritional content of the texture-modified meals. Catering staff also need to recognise that fortification with calories alone is often insufficient to address the nutritional needs of patients with OD. Patients with OD should be monitored as swallowing problems and nutritional needs often change over time. A named person should be responsible for monitoring the needs of a person with OD and be confident in referring to dietetic and speech and language therapy services should concerns arise.

Against this background, supplements may be required to meet the nutritional needs of patients with OD. However, thickening standard supplements with powders might not be ideal and reliably achieving the right consistency is difficult. Pre-thickened supplements help maintain safety, help improve nutritional intake and are more convenient for patients with OD.

*The name of the patient has been changed to protect patient confidentiality.

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