



Reduction in mortality after percutaneous endoscopic gastrostomy tube insertion is likely due to careful patient selection

The insertion of a percutaneous endoscopic gastrostomy (PEG) tube is an invaluable tool to gain long-term nutritional support for patients who cannot meet their nutritional needs for any of several reasons, with a vast volume of data showing that for certain conditions this procedure can improve patient outcomes. Unfortunately, PEG tube insertion has several adverse events, such as aspiration pneumonia, bleeding, infection, leakage, and tube dysfunction or displacement. Minor adverse events can be common and under-reported; more major adverse events arise in approximately 3% of PEG tube insertions.¹ The 30-day mortality from PEG tube insertion has recently been quoted as approximately 5%.²

A retrospective national cohort analysis of 87,862 patients from England published in this journal evaluated the 30-day mortality after PEG tube placement from 2007 to 2019; the authors found that although there was an improvement in mortality over the years, they concluded that PEG tube insertion was, and still is, associated with a significant mortality risk.² This is not only from adverse events of the procedure itself but from the underlying conditions for which the PEG tube was placed and its associated comorbidities (ie, stroke with advancing age and underlying risk factors for ischemic events).

This impressive study of a large number of patients highlights that over the years patient selection for the insertion of a PEG tube has greatly improved; in particular, the incidence of PEG feeding in dementia patients has decreased from 147 to 28. This will have a huge effect on the 30-day PEG mortality as outlined in the study, with overall 30-day mortality falling by 60% in the same time frame.² A study by Ayman et al³ showed that PEG tube insertion for dementia alone did not improve short- or long-term mortality or rehospitalization rates when compared with alternative indications.

Another strength of this study is that it showed that increasing age and higher comorbidity scores alone were associated with increasing 30-day mortality.

Nevertheless, the study was not able to determine the exact cause of death from hospital episode statistics, which means that we cannot say for certain whether the patients died of adverse events of the procedure itself or simply of the underlying disease process that prompted the PEG insertion or the patient's emergency admission. Given that mortality increased significantly with age, with comorbidities, and during emergency admissions, it was likely related to poor patient selection rather

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than to the procedure itself. Procedure-related adverse events can be reduced further by ensuring that the endoscopists and gastroenterology units are performing the appropriate number of procedures to ensure high quality standards.

Given that the 30-day mortality from PEG tube insertion is so heavily linked to patient selection, we agree with the authors' conclusions that a multidisciplinary team meeting (MDM) to select patients for PEG tube or enteral feeding is a valuable resource; this is highlighted in several guidelines. The London Royal College of Physicians guideline recommends that the members of a PEG MDM should include a doctor (preferably with an interest in nutrition), a speech and language therapist, a dietician, and nutritional nurses.⁴

PEG tube insertion is deemed appropriate in patients with clinical conditions that make oral intake difficult, such as neurologic (eg, cerebrovascular accident) and obstructive causes, and chronic diseases with an increased catabolic state that makes calorie intake insufficient to meet needs. PEG tube insertion is thought to be inappropriate in patients with dementia or in those whose life expectancy is thought to be <30 days.⁵ Unfortunately, decision making still remains very subjective.

The Royal College of Physicians guideline highlights the need for accurate information to be given to patients and relatives before PEG tube insertion, inasmuch as 1 study showed that 56% of relatives thought beforehand that it would positively affect the underlying disease process, whereas only 25% thought it had a positive effect after the procedure.⁶ Educating patients and family members can help them understand the reasoning behind their relatives receiving or being turned down for PEG tube insertion. This helps manage expectations and therefore reduces complaints and negative experiences for service users.

Can mortality after PEG tube insertion be reduced further? More work needs to be done to ascertain whether mortality is more closely linked to the procedure itself or to the underlying condition that results in PEG insertion. The existence of an MDM to select patients for PEGs should be considered a quality indicator for each institution that offers PEGs. Many guidelines that focus on the indications for PEGs are not recent but are approximately 10 years old. Perhaps there is a need to update the guidelines on the indications for PEGs, taking into account more recent research, including objective measures of the frailty of patients.

DISCLOSURE

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Abbreviations: MDM, multidisciplinary team meeting; PEG, percutaneous endoscopic gastrostomy.

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