Ethical Aspects of Percutaneous Endoscopic Gastrostomy Insertion

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Gauderer et al. [1], in 1980, were the first to describe percutaneous endoscopic gastrostomy. Since then, this procedure has become a popular technique for long-term enteral nutrition. Ethical and medical issues concerning indications for PEG recently arose in the medical community [2].

Patients and doctors have high expectations from PEG: it should improve quality of life, shorten hospitalization, prevent aspiration, improve nutritional and functional status, overcome infection with a better immune response, and increase survival. The main indications for PEG insertion mentioned in the literature are dysphagia due to reversible disease, incurable disease with survival potential, terminally debilitated patients, loss of ability to eat, primary neurologic disorder, severe upper gastrointestinal motility disorders, childhood growth failure, and gastric decompression [3]. However, the procedure of PEG insertion is not without complications [4]. The main side effects are hemorrhage, gastrocolic fistula, migration of the catheter, necrotizing fasciitis, peritonitis after perforation, respiratory complications, delayed serious wound infection, and aspiration pneumonia [4]. These complications should be borne in mind when considering PEG insertion.

Poor prognostic indicators for survival after PEG have been reported in many studies, such as age older than 75, male gender, underlying severe disease, diabetes mellitus, lower body mass index, advanced malignancy, urinary tract infection, previous aspiration, serum albumin of less than 3 g/dl, and hospitalization in a general medical center [5].

For ethical considerations regarding PEG insertion, three main questions must be addressed: what is its purpose, for whom, and when in the natural history of the patient’s illness should it be used?

For what purpose should PEG be inserted?
In a prospective, randomized, controlled trial, Norton et al. [6] demonstrated a significantly lower mortality in patients fed by PEG than in patients fed via a nasogastric tube after acute stroke. Allison and colleagues [7], based on three cases of improvement in functional and nutritional status, recommend PEG insertion within 4–6 months after acute stroke. Improvement and even regaining the ability to swallow were described in 25% of acute stroke patients [8]. PEG has an important role in the palliation of symptoms and improvement of life quality and also affects survival in motor neuron disease such as amyotrophic lateral sclerosis [8]. Israel et al. [9] used either nasogastric tube or PEG in 20 children with Crohn’s disease and growth failure; 16 of them received PEG without major complications, and all achieved normal growth rates. PEG may be inserted in patients with head and neck cancer for improving quality of life, with no influence on survival [10]. PEG should not be inserted in other cases of cancer when the prognosis is grave, since mortality in these patients is very high and there is no improvement in survival or quality of life [11]. Sixty-eight patients in a series of 191 patients with PEG had cancer; their 30-day mortality was 21%, 33% died after 60 days, and 60% after 6 months [4]. PEG is indicated for gastric decompression in gastrointestinal obstruction due to cancer, especially cancer of the female reproductive system [12,13]. PEG does not prevent aspiration or aspiration pneumonia [14–16]. Moreover, a history of aspiration is a grave prognostic factor after PEG insertion [17]. Aspiration and urinary tract infection were found to be additive poor prognostic factors with a high mortality rate in the first week and a total mortality rate of up to 48%.

For whom?
The most frequent indication is refusal to eat in the demented patient. Of all the indications, this has never been justified! There are no direct data to support PEG insertion in dementia, nor is there evidence for nutritional and functional improvement in demented patients [8,14,18]. A comprehensive program of hand-feeding remains the proper treatment. Except for one prospective cohort study in 76 patients who showed nutritional improvement [19], no investigation has demonstrated any advantage of PEG in demented patients. Weight, body mass index, and muscle mass did not increase significantly [20–22] and functional status did not improve [8,14,20].

In the famous case of Tony Bland, the court (United Kingdom House of Lords) ruled that since Bland was in a persistent vegetative state and was not expected to recover, the PEG treatment was of no benefit to him and the medical team had no obligation to continue the treatment [23]. Furthermore, since he no longer had any interest in living, having no higher cognitive function, it was not in his interest to have his life prolonged. A senile patient has no
autonomy. He is incapable of making decisions and has lost his self-determination. Thus, his situation is similar to a persistent vegetative state. In another case the court decided that sustaining therapy could be withdrawn if it was in the best interest of any incompetent patient [24]. Pain and suffering from continued living outweigh the benefits of prolonging life with artificial nutrition of this elderly, severely benefited woman, who was fed via PEG. Rabeneck et al. [2] were the first to categorically oppose PEG in patients with anorexia, cachexia, or in a vegetative state. They stated that physicians should offer and recommend PEG only for patients who have dysphagia with any other deficit in quality of life. Sanders et al. [25,26] demonstrated a high mortality rate among demented patients after PEG insertion, as compared to any other indication. They unequivocally rejected PEG insertion in this particular patient group.

- **When in the natural history of the patient’s illness should PEG be used?**
  
  As the 30 day mortality after PEG insertion is very high for patients hospitalized in a general medical center, a cooling-off period of 30–60 days should be planned from PEG request until actual insertion, to prevent early mortality. [22]. We demonstrated 30 day mortality of 60%, and a significant reduction in mortality in patients who underwent PEG after a waiting period of 30 days. [28]. Thus, we recommend inserting PEG for the following indications:
  
  - Head and neck cancer
  - Acute stroke
  - Neurogenic and muscle dystrophy syndrome
  - Growth failure in children
  - Gastric decompensation

  We do not offer PEG for the following indications:
  
  - Dementia with poor cognitive ability or persistent vegetative state
  - Aspiration (aspiration pneumonia)
  - Cancer with a short life expectancy
  - For improving nutritional or functional status in demented patients
  - For improving nutritional or functional status in cases of cachexia or anorexia

References

24. Conroy v New Jersey Supreme Court (Hodges & Tolle 1994).

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