The Role of Intravenous Fluids and Enteral or Parenteral Nutrition in Patients with Life-limiting Illness

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KEYWORDS

• Artificial hydration • Artificial nutrition • Intravenous fluids • Life-limiting illness • Dying • End of life

KEY POINTS

- Discuss the risks and benefits of artificial nutrition or hydration in life-limiting illness with the patient and the family and/or decision maker.
- Describe artificial nutrition and hydration as a medical intervention.
- Explain the principles of comfort feeding and present this as an option.
- Families and decision makers often carry end-of-life decisions with them after their loved one dies.

INTRODUCTION

The inability to feed or hydrate a patient is an increasingly common consequence of both benign and malignant conditions. Patients and families are often asked their preference for artificial nutrition or hydration (ANH) in life-limiting situations, but there is little information to guide this decision making, especially related to cost-effective care. ANH is considered a medical intervention, and therefore carries some degree of invasiveness (ie, intravenous [IV] access) and risk for complication (ie, infection). ANH is not beneficial for patients with end-stage dementia[1] and 3 major organizations have highlighted this in the Choosing Wisely campaign.[2] However, there are situations, such as head and neck cancers, cerebrovascular accident, amyotrophic lateral

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sclerosis, human immunodeficiency virus and acquired immunodeficiency syndrome, and cystic fibrosis, in which patients benefit from ANH. However, there are cases in which the burdens of ANH outweigh the benefits and possibly prolong the patient's suffering. Each patient and family may have different expectations for ANH. It is important to first outline what both hope to achieve with ANH. There are instances of people wishing to focus on quality of life and others in which the focus is on quantity. The reality is that most people wish to focus on both. This article cover 3 specific scenarios, including dementia, malignancy, and actively dying, in the hope of highlighting the best approach to ANH in patients with life-limiting illness.

EVALUATION OF PATIENTS FOR USE OF ARTIFICIAL NUTRITION OR HYDRATION

The evaluation of a patient for ANH or parenteral nutrition (PN) should include consideration of the following:

- Patient and/or family goals of care. These should include a discussion of what interventions are acceptable (additional tubes or lines), who is going to administer the support (family, visiting nurse, nursing home staff), and the practicalities of these support measures (tube feeds or PN require being attached to a pump and IV pole, blood work may be involved to monitor electrolyte levels). Although these support measures sound appealing at first, the implementation can be intrusive to the patient and family, and may isolate the patient by restricting activity and/or social interactions.
- Physiologic assessment. Percentage weight loss; electrolyte abnormalities; nutritional status reflected by albumin, prealbumin, or transferrin levels; and fluid balance to include gastrointestinal (GI) losses.
  - Cachexia is a complex clinical syndrome of malnutrition and weight loss associated with advanced stages of various diseases. Cachexia in patients with neurologic disease is physiologically different from cachexia in patients with cancer, despite the end result seeming similar. In both situations, patients need to be carefully monitored for the effects of nutritional support, to avoid refeeding syndrome or overfeeding. Electrolyte imbalance, including hypokalemia, hypophosphatemia, and hypomagnesemia, is a hallmark of refeeding syndrome. However, cachexia associated with cancer is typically refractory to intervention, with rare gains in any measurable parameter such as weight, quality of life, or survival.[3]
- Access for nutritional support. Is the GI tract functional? What tubes or lines does the patient have already? The GI tract is always the preferred approach for supporting a patient.
- Anticipated duration of support.
- Reassessment. Once an intervention has been implemented, the patient should be assessed regularly for benefits, possible side effects, and tolerance of the intervention. Clinicians should gauge continued acceptance of the intervention and any change in patient or family goals.
- Consideration of other factors that affect a patient's ability or desire to eat are discussed later.

SETTING THE STAGE FOR THE DISCUSSION: 2 CASES

Case 1: A Case of Advanced Dementia

In the case of advanced dementia, the patient's decline has usually been progressive over years. There is an expectation by the general public that memory will slowly fade away, but it may be even more distressing to watch a loved one lose the ability to