Nutritional Support in Esophagogastric Cancers

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KEYWORDS

• Malnutrition • Cachexia • Esophageal cancer • Gastric cancer • Enteral feeding • Parenteral feeding • Immunonutrition

KEY POINTS

- Malnutrition is a common complication of esophageal and gastric cancers.
- Nutritional support is an important aspect of the multidisciplinary care that patients with these cancers require.
- For patients who undergo surgery, nutritional optimization before surgery has been shown to improve outcomes.
- Whenever possible, enteral nutritional support is preferred to parenteral nutrition.
- Nutritional support, either enteral or parental, carries the risk of complications and these should be weighed against the possible benefits when determining the appropriate management course.

INTRODUCTION

Malnutrition is a common complication of esophageal and gastric cancers and it is associated with poorer outcomes.[1] It can occur through multiple mechanisms, including increased metabolic demands, insufficient nutrient intake, or nutrient loss.[2] More specifically, these patients often have poor nutritional intake because of dysphagia, cancer cachexia, surgical resections and their complications, unresectable disease, strictures, chemotherapy, and radiotherapy effects.[3] For these reasons, nutritional support is a critical aspect of the multidisciplinary treatment required by these patients. For clinicians, malnutrition can be defined as an abnormal body composition with functional impairment of organs, caused by an acute or chronic imbalance between energy and protein availability and body requirements.[4] Cancer cachexia is an important aspect of these patients' malnutrition. It has come to carry multiple definitions, but recently Bozzetti and Mariani[5] defined it as a complex

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syndrome characterized by a severe, chronic, unintentional, and progressive weight loss, which is poorly responsive to the conventional nutritional support, and may be associated with anorexia, asthenia, and early satiation. Hence the management of malnutrition and cancer cachexia in these patients is best accomplished via a multidisciplinary approach that includes clinical nutritionists, dieticians, gastroenterologists, medical oncologists, and surgeons.

In general, these patients can be classified into 2 groups: operable and nonoperable. The nonoperable patients can be further subdivided into those who will undergo chemotherapy and/or radiation and those who will receive palliative measures only. Each group of patients faces its own set of obstacles to maintaining adequate nutrition and each group requires a specific approach to nutritional support. For those patients who undergo surgery, there is a significant associated morbidity.[6,7] Undergoing surgery in a malnourished state increases the risk of morbidity. In these cases, nutritional support is an essential aspect of the patient's preoperative and postoperative management. For patients who do not undergo surgery but instead receive chemotherapy and/or radiation, nutritional support is also critical. These therapies can be very toxic to the gastrointestinal (GI) tract and negatively affect the patient's nutritional status. Early nutritional support should be provided when necessary.

Patients who undergo terminal or hospice-based care can present difficult ethical dilemmas regarding their nutrition. Patients and their families may see withdrawal or withholding of nutritional support as hastening death; however, studies have routinely shown that nutritional support in these patients provides no benefit (**Box 1**).

EPIDEMIOLOGY

In the United States in 2016, esophageal cancer has an estimated incidence of 14,550 new cases and 13,770 deaths are expected. In 2012, there were an estimated 455,800 new cases and 400,200 deaths occurred worldwide. In the United States in 2016, it is also estimated that there will be 22,280 cases of gastric cancer diagnosed and 11,430 deaths are expected.[8] According to the World Health Organization, there were

Box 1
Key definitions

Malnutrition

Abnormal body composition with functional impairment of organs, caused by an acute or chronic imbalance between energy and protein availability and body requirements.

Cancer cachexia

A complex syndrome characterized by a severe, chronic, unintentional, and progressive weight loss, which is poorly responsive to the conventional nutritional support and may be associated with anorexia, asthenia, and early satiation.

Enteral nutrition

Providing caloric needs via the GI tract by way of introducing formula either with an nasogastric tube or through percutaneous tubes such as percutaneous endoscopic gastrostomy or percutaneous endoscopic jejunostomy.

Parenteral nutrition

Providing caloric needs via an intravenous solution, which typically contains dextrose, amino acids, lipids, electrolytes, vitamins, and minerals.