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Special article

Nutritional support of the elderly cancer patient: Long-term nutritional support

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ABSTRACT

Elderly cancer patients account for a growing part of home artificial nutrition patients. Long-term enteral or parenteral nutrition in the older patient with cancer is prescribed for sequels after treatment (dysphagia, intestinal failure) or for bowel obstruction. Home artificial nutrition should benefit from a specialized follow-up. For patients out of therapy, the goal of nutritional care is to optimize quality of life and comfort.

Remarkably few studies have addressed the subject of long-term (>3 mo) nutritional support in older patients, let alone those with cancer. Therefore, recommendations tend to be made based on those available for adult patients.

Indications for long-term artificial nutrition

Indications for prolonged enteral nutrition (EN) in patients with usually include dysphagia and mild intestinal failure (gastrectomy and Whipple's procedure), both induced by cancer treatment. Indications for prolonged parenteral nutrition (PN) in these patients include severe intestinal failure (surgical resection, radiation enteritis) induced by cancer treatment. They also include chronic obstruction that may be due to peritoneal carcinomatosis, nowadays compatible with prolonged survival (especially when the primary tumor is ovarian) [1]. These indications are similar to those in younger patients, both in the hospital and at home. Guidelines from the European Society for Clinical Nutrition and Metabolism (ESPEN) state that, although indications of PN should be limited to situations when EN is contraindicated or poorly tolerated, age per se is not a reason for excluding patients from PN [2].

In patients with advanced cancer and inoperable bowel obstruction, multicenter studies on home PN (HPN) have demonstrated a positive effect on nutritional status and quality of life in those who survived >3 mo and had a Karnofsky Performance Status score of >50 at the onset of HPN [3,4]. In patients where death is imminent (i.e., within the next 4 wk), PN or hydration should only be used after careful and interdisciplinary reflection, especially because the ability to estimate the length of survival is quite limited.

Patient comfort is the highest priority, and nutritional support should be given in conjunction with other palliative treatments [2].

In Europe in 1997, individuals age >61 represented 28% of all HPN patients [5], a percentage comparable to that observed in the United States (22%) [6]. Between 2001 and 2005, 81% of home EN (HEN) patients in the Veneto region of Italy were age >65, and the majority of head and neck and abdominal cancers were in this age group [7]. In the U.S. registry analysis of geriatric patients, cancer was the main reason for HEN and HPN (43% for each) [6].

ESPEN guidelines on EN in the geriatric population state that for long-term nutritional support, gastrostomy tubes may be preferred to nasogastric tubes because they are associated with fewer treatment failures, better nutritional status, and are more convenient for the patient [6]. Similarly, HPN should be performed via a specialized central venous line (tunneled catheters or implanted ports) [8].

Long-term artificial nutrition needs to be performed at home or in an institution, not in a hospital. Patients who receive geriatric care at home, including nutritional support, require considerable assistance from family members. Appropriateness

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of artificial nutrition should be considered with caution, taking into account the patient's particular circumstances, such as probable survival, rehabilitation potential, and complication risks [2]. When EN is to be delivered for long periods of time (i.e., prolonged dysphagia) the patient and his or her family members must be trained for home management. Furthermore, HEN and HPN patients and their family members should receive written instructions for dealing with common problems, as well as for routine procedures [9]. This is one of the tasks that can be handled at specialized artificial nutrition centers, where patients receiving long-term nutritional support may ideally be referred.

Outcome of artificial nutrition

The effectiveness of artificial nutrition on nutritional status may be compromised by poor compliance with the tubes (for EN) and by side effects. Many patients are bedridden and consequent immobility further enhances muscle wasting and prevents lean body mass gain. Weighing the patient also may prove to be problematic.

Survival, rehabilitation, and ability to resume oral intake are lower among older patients on home artificial nutrition compared with middle-aged and young patients [6,7,10]. A United Kingdom survey of 188 patients (963 patient-years of HPN) over a 25-y period found a lower survival probability among older patients compared with a younger population. However, HPN dependence among survivors was not affected by age [11]. In contrast, probably due to age-induced anorexia, patients will probably be more difficult to wean from EN. In a retrospective study of 102 patients post-chemoradiation for head and neck cancer and placement of a percutaneous endoscopic gastrostomy, EN was significantly ($P = 0.001$) prolonged as the age of patients increased [12].

Complications of HEN and HPN are similar to those observed in other age groups. They include tube complications (obstruction, removal) and diarrhea/constipation for enterally fed patients and catheter-related complications (infections, thrombosis, obstruction) for parenterally fed patients. Specifically, advanced age has been associated with a higher risk for central catheter vascular erosion [13], but not for bloodstream infections [14].

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