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Review

Consensus and clinical recommendations for nutritional intervention for head and neck cancer patients undergoing chemoradiotherapy in Taiwan



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ABSTRACT

Because of the anatomical location, patients with head and neck cancer (HNC) frequently experience dysphagia and malnutrition at the time of diagnosis and these conditions are often exacerbated after chemoradiotherapy. There is an emerging medical need to establish a consensus on nutritional intervention for these patients. A panel of 30 senior physicians and experts from multidisciplinary teams drafted clinical recommendations to improve the management of nutritional interventions in Taiwan and to provide updated treatment strategy recommendations in hope of improving the nutritional status of patients with HNC. This clinical review describes the resulting consensus document, including the impact of malnutrition on clinical outcomes, the role of prophylactic tube feeding, the choice of tube feeding, and the benefit of oral nutritional supplements in patients with HNC undergoing chemoradiotherapy. The outcomes of this review will support clinicians in their efforts to improve the nutritional status of patients with HNC.

Introduction

Head and neck cancer (HNC) is one of the most common malignancies worldwide [1]. In patients with advanced HNC, the standard of care often involves radical resection, chemotherapy, and radiotherapy [2]. Multidisciplinary treatments invariably cause mucositis, xerostomia, and odynophagia, resulting in swallowing disabilities. In addition, severe malnourishment may interrupt treatment or even cause death. Poor nutritional status increases radiation-induced toxicity and is associated with poor clinical outcome [3]. Therefore, improving the nutritional status of patients with HNC during treatment is one of the major goals of multidisciplinary treatment teams.

Taiwan has one of the highest incidence rates of HNC worldwide (41.05 per 100,000) [4]. A large proportion of these patients receive adjuvant or definitive chemoradiation due to either presence of pathological risk factors of recurrence or locally advanced stage. There is an emerging medical need to establish a consensus on nutritional intervention in these patients. The current consensus regarding nutritional intervention in patients with HNC receiving chemoradiotherapy

varies from experts' experiences to evidence-based medicine [5]. Thus, we developed this consensus statement to improve the management of nutritional intervention in Taiwan and to provide updated treatment strategy recommendations to improve the nutritional status of patients with HNC. Our recommendations for the population in Taiwan, which has a high prevalence of HNC, may also be helpful for other global regions in their efforts to improve the nutritional status of patients with HNC undergoing chemoradiotherapy.

Methods

Steering committee set the consensus scope and structure

To establish the expert consensus for nutritional intervention in Taiwan, the steering committee was chaired by P.J. Lou (Taiwan Head and Neck Oncology Society) along with five other opinion leaders from the Gastroenterological Society (W.K. Chang), Radiation Oncology Society (P.W. Shueng), Clinical Oncology Society (M.H. Yang), and Clinical Nutrition Society (H.C. Fong and Y.H. Kuo) in Taiwan. The

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Table 1

Levels of evidence and grades of recommendation based on the Oxford Centre for Evidence Based Medicine.

Recommendation	Level	Description
Α	1a	Systematic review (SR) with homogeneity of randomized controlled trials (RCTs)
	1b	Individual RCT (with narrow confidence interval)
	1c	All or none
В	2a 2b 2c 3a 3b	SR (with homogeneity) of cohort studies Individual cohort study (including low quality RCT; for example, < 80% follow-up) "Outcomes" research; ecological studies SR with homogeneity of case-control studies Individual case-control study
С	4	Case series (and poor quality cohort and case-control studies)
D	5	Expert opinion without explicit critical appraisal, or based on physiology, bench research, or "first principles"

steering committee defined the scope sessions of the consensus, conducted a literature search and review, formulated draft statements, and defined the statement evidence level.

Steering committee members to conduct literature search and review

Published literature was searched from the Embase, MEDLINE, and Cochrane Central Register of Controlled Trials databases. The keywords included head and neck cancer, nutrition, nutritional assessment, weight loss, performance, survivals, enteral feedings, nasogastric tube, gastrostomy, chemotherapy, radiotherapy, and nutritional supplements. The review processes included all primary research studies published in English with peer reviews. Based on the literature review, the draft statements of the consensus were established by the steering committee members. For each statement, the level of evidence was defined according to the Oxford Centre for Evidence-Based Medicine Levels of Evidence (Table 1).

Expert group meeting to produce a statement of agreement and recommendation grading

A total of 30 experts, including the six members of the steering committee and 24 members who accepted the invitation from the steering committee, comprised the expert consensus group. The draft statements were sent to all experts, together with the pertinent literature, prior to the consensus meeting in Tainan in February 2017.

During the two-day consensus meeting, the supporting evidence from the keynote literature summary by the steering committee was presented for each draft statement. Based on a modified Delphi process through two separate iterations, all participants voted anonymously for the first round of statements and modified the statements through discussion. The modified statements were followed by a second round of voting with electronic keypads until a consensus was reached, defined as an agreement percentage > 80%. If the agreement was < 80%, the statement was rejected. The expert members also discussed the level of evidence suggested by the steering committee and then graded the recommendation level by voting for each statement. The recommendation grades ranged from A to D. The level of recommendation was defined as the grade with the highest number of votes from the expert group members. The conferences were underwritten by unrestricted grants from the Gastroenterological Society of Taiwan. Mandatory written disclosures of financial conflicts of interest within the period of three years prior to the meetings were obtained from all experts prior to the voting.

Consensus statement

Statement 1: Significant weight loss with malnutrition before treatment predicts poor clinical outcomes of patients with HNC.

- Evidence level: 1b
- Agreement: 100%
- Recommendation grades: A: 96.7%, B: 3.3%, C: 0%, D: 0%

Pretreatment evaluation of nutritional status in patients with HNC is very important. A prospective randomized phase III trial showed that significant weight loss before, but not during, treatment was associated with poor survival and clinical outcomes in 224 patients with HNC [6]. In addition, pretreatment weight loss > 10% is an independent prognostic variable for overall survival, with an effect that persists even 10 years after the initial diagnosis and weight loss between 5% and 10% is related to decreased overall survival at two years [7]. The association between weight loss and deterioration in quality of life (QoL) has also been investigated in patients with HNC treated with radiotherapy. These studies have shown that weight loss greater than 10% during radiotherapy is associated with deterioration in QoL, social eating, and social contact [8,9].

Statement 2: Patient-Generated Subjective Global Assessment (PG-SGA) is a common method to define the nutritional status of patients with HNC.

- Evidence level: 2a
- Agreement: 100%
- Recommendation grades: A: 86.7%, B: 13.3%, C: 0%, D: 0%

A number of methods are used to evaluate the nutritional status of patients with HNC. Among them, the PG-SGA is a reliable, cancerspecific nutritional assessment tool recognized by several international dietetic associations. The combination of weight loss and PG-SGA assessment allows the detection of 18% more true-positive cases of malnutrition and has been frequently utilized in related studies [7,10,11].

Statement 3: Nutritional interventions significantly improve clinical outcomes.

- Evidence level: 1b
- Agreement: 96.7%
- Recommendation grades: A: 66.7%, B: 33.3%, C: 0%, D: 0%

Several randomized trials showed that nutritional interventions, e.g., dietary counseling, nutritional supplementation, or prophylactic enteral tube feeding, had benefits on clinical outcomes in patients with HNC [5,12,13]. Early and intensive nutritional interventions improved the deterioration in weight loss, nutritional status, and overall QoL [11]. Weight maintenance led to beneficial outcomes and is an appropriate aim of nutritional interventions.

Meta-analysis of randomized trials showed that enteral tube feeding for patients undergoing surgery resulted in a shorter length of hospital stay and lower incidence of surgical complications including infection and sepsis scores [12]. A randomized trial also suggested that prophylactic percutaneous endoscopic gastrostomy (PEG) for enteral nutrition could prevent malnutrition and improve health-related QoL [13]. Studies also supported the use of interventions to optimize the nutritional status in patients with HNC receiving radiotherapy [5,14]. Furthermore, several trials evaluating the effects of different nutritional interventions showed that individualized dietary counseling resulted in superior nutritional status and QoL compared to no counseling or general nutritional advice by nurses. In addition, nasogastric tube feeding had a benefit on nutritional status compared to oral nutritional supplementation [15].

Statement 4: Prophylactic feeding tube placement is not recommended in patients with good performance and nutritional status. Download English Version:

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