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Nutritional Management for Patients with Head and Neck Cancer: The Second Step of an Italian Survey: The Opinion of Italian Otolaryngologists

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Abstract

Background: The purpose of this study was to survey the opinion of Italian otolaryngologist about nutritional management in patients with head and neck tumors.

Materials and Methods: A survey of 10 questions was e-mailed to 100 Italian centers of Otolaryngology.

Results: A total of 27 surveys were filled in. Nutritional supplementation in preventive phase was used by 37% respondents. The majority of respondents (88.3%) stated to use percutaneous endoscopic gastrostomy (PEG) in a reactive phase. Nutritional counselling before starting treatment was performed "rarely" by 33.3% of respondents while "always" by 29.6% of respondents; however 85.2% of respondents stated that medical nutritionist assessment should represent a standard procedure before starting an oncologic treatment.

Conclusions: Current practice about nutritional management for head and neck tumors is wide heterogeneous. Early or reactive approaches remain questionable, though otolaryngologists agree on the use of PEG in a reactive phase.

Keywords: Endoscopic gastrostomy; Survey; Nutrition; Head and neck cancer

Introduction

Growing evidence shows that more aggressive therapeutic regimens improve survival outcome of patients with head and neck cancers (HNC) [1]. However these better treatment outcomes are associated with increased morbidity worsening quality of life of the patient [2-14]. HNC patients are more likely to experience nutritional deficiencies during all phases of disease [15-23]. Studies show that nearly 40-50% of HNC patients have a markedly impaired nutritional status at the time of diagnosis, 55% have a negative energy balance throughout the course of the disease; severe weight loss has been documented in 58% of patients without enteral nutritional support [17-20].

It has been demonstrated that pre-treatment weight loss is the strongest independent predictor of survival and that malnutrition is associated with poor treatment outcomes [24-27]. Nutritional support, oral supplements and enteral tube feeding such as nasogastric tube (NGT), percutaneous endoscopic gastrostomy (PEG) and percutaneous fluoroscopic gastrostomy (PFG), are often required for HNC patients and its can be employed in different phases of oncologic management (before, during or after the primary oncologic treatment). To date, due to a lack of relevant guidelines and scientific evidences, the debate over the better choice between PEG or NGT and over the timing of their placement persists; furthermore nutritional support strategy in HNC remains nonstandard and extremely variable for different centres and physicians [28].

In view of this, we explored the opinion of otolaryngologists concerning nutritional management of HNC patients, with particular regard to PEG placement. In this study, we report the results of our survey, the first Italian survey directed to Otolaryngologists about the management of nutritional support in patients with HNC. This survey represents the second step of a project aimed to search for a point of view of experts dedicated to HNC (radiotherapists and otolaryngologists), in order to establish common guidelines [29].

Materials and Methods

A questionnaire focused on the different points of view of management of nutritional support in HNC (Table 1) was sent to 100 Italian centres of Otolaryngology. It was an online questionnaire of 10 multiple-choice questions, approved by a multidisciplinary team (MDT) composed by otolaryngologists, radiotherapists and nutritionists. The survey was prepared on the Survey Monkey online interface (www.SurveyMonkey.com). Starting from 1 April 2014 personalized e-mail invitations with direct links to the survey were sent to the Directors of the selected Italian centres of Otolaryngologists (the same questionnaire had sent to 106 Italian centres of radiation oncology) [29]. No compensation was offered to participating. Responses were collected over a 2-month period (until 30 June 2014).

We performed a descriptive analysis consisting in frequencies and percentage automatically calculated by Survey-Monkey; in addition one sample Chi-squared test was performed to determine the difference in frequency respect to uniform distribution a priori hypothesized.

Results

A total of 27 of 100 questionnaires (27%) sent to Italian centres of Otolaryngology were filled in, respondents answered all questions. Most otolaryngologists' respondents (66.7%) affirmed to treat less than 10 HNC patients per month. The three sites most frequently treated were: larynx (51.9%), oropharynx (29.6%) and oral cavity (22.2%). The majority of otolaryngologists respondents (33.3%) claimed to rarely make the nutritional counselling before surgery and 29.6% claimed to always make the nutritional counselling (p=0.535). While 29.6% of respondents do not use any nutritional supplement before surgical treatment, most respondents (37%) affirmed to use "other" nutritional supplements such as oral supplements and parenteral administration of nutrients (p=0.161). About the question "when do you use PEG?" 11.1% of the otolaryngologists respondents reported to place PEG in a prophylactic way, while 88.9% in a reactive phase; 92.6% of otolaryngologists said that PEG before starting treatment should not be a standard procedure (p<0.001). Tumor stage and site were considered as criteria for placement of PEG by 85.2% of otolaryngologists respondents (p<0.001). About nutritional counseling, 85.2% otolaryngologists stated that medical nutritionist assessment before starting an oncologic treatment should represent a standard procedure (p<0.001). At today it is assumed that a multidisciplinary approach is necessary for a proper nutritional management of HNC and in reference to this, 92.6% Otolaryngologists said to evaluate patients with HNC within a MDT.

Questionnaire	A1	A2	A3	A4
1. How many patients with H&N cancers are monthly treated in your department?	<10	20-Oct	>20	-
2. What is the site most frequently treated?	Larynx	Oral cavity	Oropharynx	Other
3. What is the second site most frequently treated?	Larynx	Oral cavity	Oropharynx	Other
4. Do you perform nutritional counseling before starting surgical treatment?	Rarely	Never	Always	Almost always
5. Which is the preferred route for prophylactic administration of nutritional supplements in patients with head and neck region?	Not use	NG tube	PEG	Other
6. In your experience, what are the criteria for PEG placement?	Stage	Site	Stage and Site	Other
7. When do you use PEG?	Prophylactic phase	Reactive phase	-	-
8. In your opinion, prophylactic PEG placement should be a standard procedure?	Yes	No	-	-
9. In your opinion, nutritional counseling before starting surgical treatment should be a standard procedure?	Yes	No	-	-
10. Do you work within a multidisciplinary team?	Yes	No	Other	
A: Answer				

Table 1: Questionnaire.

Discussion

Nutritional management is one of the most important problems in HNC patients. Several factors affect nutritional status in these patients during all phases of disease: locally advanced disease at diagnosis, anatomic location of the tumor mass, low socioeconomic status, older age, tobacco and excessive alcohol intake, treatments performed on primary tumor [15,16,21-23,30-34]. Studies show that nearly 40-50% of HNC patients have a markedly impaired nutritional status at the time of diagnosis [17,18]. Severe weight loss has been documented in 58% of patients without enteral nutritional support and it has been shown that 55% of patients could experience an additional 10% or more weight loss during both radiation therapy and chemotherapy [20,35-36]. It was demonstrated by several authors that malnutrition is associated with poor treatment outcomes, in terms of surgical site infections, wound dehiscence, morbidity, cancer recurrence, mortality and quality of life [26,27] therefore it is very important to prevent, to recognize and to treat malnutrition in an early phase of HNC treatment.

Initial nutritional intervention often involves food enrichment and oral nutrition supplements and there are several enteral feeding strategies, such as NGT, PEG and PFG, used to improve the nutritional status of patients, but up till now there has been no consistent evidence about which method is the optimal one [30,33,37,38]. NGT and PEG are the preferred strategies for enteral support, both of them have been demonstrated to be effective in achieving nutritional intake in HNC patients undergoing radiation therapy or concurrent radio-chemotherapy [37,39,40]. NGT is easy to place but poorly tolerated for prolonged periods of feeding, because it is associated with frequent ulceration, esophageal reflux and general discomfort; however PEG is better tolerated, with a lower rate of acute complications if compared with other tubes, and quality of life is potentially improved [41]. The debate over the use of PEG and NGT in HNC patients is still open and it involves considerations about modality and timing of tube feeding

positioning, particularly in patients whose nutritional status is intact [31,32,34,37,39,42]. Furthermore, best practice nutrition management guidelines recommend that specialized nutritionist should be part of the MDT, together with surgeon, radiotherapist and oncologist.

This survey showed the opinions of Italian otolaryngologists regarding the role of nutritional supplementation and early placement of PEG in HNC patients. 27 out of 100 Italian Centres of otolaryngology responded to the survey, showing a poor response rate (27%) but coherent with rates recorded in other similar investigations with otolaryngologists [43,44]. The majority of Italian otolaryngology centres rarely perform nutritional counselling (33.3%) and do not use preventive nutritional supplements (29.6%), but we found no statistically significant differences in these recorded responses ($p=0.535$). Otolaryngologists agree with placing PEG in reactive phase (88.9%), in fact only 11.1% of otolaryngologists place PEG in prophylactic phase ($p<0.001$). Indeed 92.6 % of physicians affirmed that the placement of PEG before starting treatment should not be a standard procedure, confirming their common clinical practice ($p<0.001$). Dedicated MDT, in Italy, represents a consolidated reality (92.6% of the interviewed otolaryngologists reported to work within a MDT) and 85.2% of otolaryngologists interviewed consider that medical nutritionist assessment before starting treatment should represent a standard procedure, but only 29.6% declared to perform it always, suggesting that medical nutritionist is not steady part of the MDT. This latter result appeared to be statistically significant ($p<0.001$). This survey showed results partially conflicting in respect to the best practice management guidelines recommending the nutritionist within a dedicated MDT, while it is in agreement with other evidences in relation to the enteral feeding (both about type and timing of placement) [28].

Despite this study showed that the nutritionist is a ghost figure, the importance of nutritional evaluation in clinical practice is largely demonstrated and several authors observed a smaller weight loss, a better nutritional status and global quality of life in HNC patients when an intensive nutritional counselling is performed [45-50]. Regarding enteral nutrition, 92.6% of Italian otolaryngologists believes that prophylactic feeding should not represent a standard procedure, in agreement with a great part of literature, showing consensus that prophylactic feeding doesn't give benefits on nutritional or therapeutic outcomes if compared to reactive feeding. The present survey has as major limitation, namely the low participation rate. As in other surveys addressed to surgeons, response rates are often unsatisfying; however, in our opinion, this failing result is a starting point to encourage otolaryngologists discuss and share their practice using tools such as surveys, as well. We do not claim to provide recommendations nor strong scientific evidence from this survey, but it is clear that there is no uniformity in the nutritional management of HNC; furthermore, personal opinion and clinical experience often affect decision making more than recommendation and guidelines. Further researches are required in order to establish the optional nutritional approach and standard guideline for a common nutrition management in HNC patients. Finally, we believe that participation in the surveys should be encouraged in order to better use the information that this tool can provide.

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