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CASE REPORT 113

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The Effect of Proactive Approach to Malnutrition and its Impact on Quality of Life in Patients with Head and Neck Malignities: A Case Example

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What is known on this subject?

Chemotherapy and radiotherapy used in the treatment of nasopharyngeal cancer may cause mucositis. Mucositis-related swallowing difficulty is an important contributor to the development of malnutrition and requires early intervention for nutritional status management using a multidisciplinary approach.

What this case report adds?

By identifying the risk of malnutrition at an early stage in patients with malignancy, a proactive approach to nutrition may contribute to the patient's recovery in a short time and to the success of the treatment.

ABSTRACT

Head and neck cancers may lead to malnutrition in patients because of the natural course of the disease and treatment-related complications. A 36-year-old patient who experienced pain and nutritional difficulties due to mucositis after combined chemoradiotherapy for nasopharyngeal cancer was found to be at risk for malnutrition. To prevent the development of malnutrition, it was decided to feed him through a percutaneous endoscopic gastrostomy (PEG) tube, and sufficient calorie intake was provided. The PEG tube was removed after alleviation of symptoms and achieving adequate nutritional performance that could meet all calorie needs with oral nutrition. It should be kept in mind that early recognition of the malnutrition risk in patients with malignancy and a proactive approach to nutrition will contribute to the regression of existing complaints in a short time and the patients' regaining their former performance.

Keywords: Comprehensive health care, dysphagia, malnutrition, palliative care, percutaneous endoscopic gastrostomy

Introduction

Nasopharyngeal cancer is a malignant tumor that originates from the nasopharyngeal epithelium. Its etiology may be influenced by various factors, including genetic factors, environmental factors, and viral agents, especially Epstein-Barr virus. Undesirable conditions such as mucositis, xerostomia, and dysphagia in the oral cavity may develop in patients with nasopharyngeal cancer because of both treatment-related side effects and the natural course of the disease, and these may lead to nutritional problems (1).

Enteral nutrition and eligible calorie intake should be provided to patients with insufficient oral food intake due to various underlying benign and malignant diseases and complications associated with their treatment (2).

This case report aims to highlight the impact of early percutaneous endoscopic gastrostomy (PEG) and nutritional palliation

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on disease course and quality of life in a patient with nasopharyngeal cancer who experienced rapid weight loss and was at risk for malnutrition.

Case Report

A 36-year-old male patient was referred to the family medicine outpatient clinic with complaints of difficulty and pain while swallowingsolid foods. It was learned that the complaints worsened following 32 doses of chemotherapy (CT) and 2 doses of radiotherapy (RT) administered for nasopharyngeal carcinoma, which was diagnosed 4 months ago. Despite using antiseptic oral solution 4 times daily and paracetamol 2x500 mg/day, it was noted that his complaints did not regress. It was also revealed that the patient had a weight loss of more than 7% during the last three months.

Physical examination did not reveal any significant finding other than oral mucositis. The patient was evaluated clinically and found to have a body mass index of 24.5 kg/m^2, a Nutrition Risk Score-2002 (NRS) score of 3:3, and a visual analogue scale (VAS) score of 6. The albumin level was 4.6 g/L, the prealbumin level was 17 g/L, the C-reactive protein level was 47 mg/L, and the hemoglobin level was 11.5 g/dL, according to the findings of the laboratory tests. In the patient who was admitted to our palliative care service for nutrition and pain relief, the paracetamol dose was changed to 3x500 mg/day. Moreover, 1x100 mg/day tramadol was added for the management of pain, and the VAS decreased to 3.

The daily calorie requirement of the patient, who was deemed to be at risk of nutritional deficiency, was estimated and oral nutritional support products were initiated; however, it was determined that the daily calorie intake did not meet the need due to dysphagia. To determine the etiology of dysphagia, it was decided to control the nasopharyngeal passage opening, and an opinion was obtained from the department of otorhinolaryngology. Upon the detection of obliteration in the nasopharynx, the patient was fed a glutamine-supplemented nutritional support product through the nasogastric tube. Considering the age and general condition of the patient, we concluded that the continuation of feeding through a nasogastric tube would not be appropriate in terms of patient comfort and quality of life. It was decided that the patient who will continue to receive RT should be fed a PEG tube. PEG placement was performed after a decision was made with the gastroenterology team. No complications developed during or after the procedure.

Following PEG placement, a nutrition plan was made according to the daily calorie and protein needs of the patient together with the palliative care dietitian. He was planned to be fed a nutritional support product containing 1.2 calories/mL and a daily calorie intake of 1900 calories. At the 24th hour following the PEG placement, he was started to be fed with 20 cc/h nutritional supplement and 10 cc/h water. The total daily calories needed by the patient were reached on the fourth day with a gradual increase in dose. The patient, without tolerance problems during his hospitalization in the palliative care unit, was discharged with recommendations one week after PEG placement, with appropriate training on nutrition and maintenance of the PEG tube.

After 15 days, the patient's outpatient control was found to be suitable, and it was observed that the complaints of mucositis and dysphagia regressed.

In the control examination 4 weeks after discharge, the patient's complaints completely disappeared, and accordingly, it was observed that the patient's oral intake also increased, and he gained 9 kg in 30 days, and the NRS-2002 score was 1. The prealbumin value increased from 17 to 25 g/L, the hemoglobin value increased from 11.5 to 13.4 g/dL, and the albumin value increased to 4.7 g/L. With the approval of the gastroenterology clinic, the patient's PEG tube was removed, and he was interned to the palliative care service. Oral intake was stopped for 3 days, and the patient was fed with total parenteral nutrition. At the end of day 3, complete closure of the gastrostomy incision line was observed with inspection, and 10 cc diluted methylene blue was administered with a nasogastric tube, and no leakage was detected at the PEG incision site. Oral feeding was initiated with regimen 1 liquid diet. In the follow-up clinical examinations, by gradually revising his diet, the daily calorie requirement was fulfilled with the regimen 3 oral diet. The patient, who completed RT, was discharged with a VAS score of 1.

Discussion

Palliative care comprises a multidisciplinary treatment approach that aims to improve the quality of life of patients with chronic diseases and to prevent or lessen the symptoms associated with terminal illness and the side effects of the treatments.

Palliative care aims to alleviate physical and emotional symptoms, especially pain, and to evaluate and support nutrition when necessary (3). The main objective of palliative care regarding malnutrition is to assess the risk, prevent it from developing, andprovide nutritional supportif necessary.

Head and neck malignancies may negatively impact nutrition, even in the early stages of the disease. Dysphagia is common in patients with head and neck cancer, particularly

in those receiving RT (1). It has been revealed that the presence of dysphagia increases the risk of malnutrition 2.4 times (4).

Following a multidisciplinary evaluation with gastroenterology and otorhinolaryngology regarding a patient who was at risk for malnutrition because of head and neck cancer, PEG was inserted in the early period before the patient's performance was affected by malnutrition, preventing the patient from reaching premorbid nutritional status in a short time. In a study by Wiggenraad et al. (5) evaluating the effect of prophylactic nutrition with PEG on weight loss in patients with head and neck cancer receiving CT, switching to enteral nutrition in the early period reduces weight loss. In another trial comparing the outcomes of reactive and prophylactic PEG tube placement in patients with locally advanced head and neck malignancies treated with CT, a decrease in the rates of hospitalization, aspiration, and stricture development was observed with PEG feeding (6).

A proactive approach, which includes nutritional support by reconfiguring the risk of malnutrition in the early period of malignancy, can contribute to the patient's recovery in a short time. In this patient, with a holistic and proactive approach, the patient's quality of life was improved and he was supported to return to his previous life as soon as possible.

Ethics

Informed Consent: Informed consent was obtained.

Peer-review: Externally peer-reviewed.

Authorship Contributions

Concept: S.B.A., H.Ö., Design: S.B.A., B.K., Data Collection or Processing: B.K., K.P.E., A.E., Analysis or Interpretation: S.B.A., H.Ö., K.P.E., Literature Search: A.E., Writing: S.B.A., B.K., H.Ö., K.P.E., A.E.

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