

Case Report

On the Discontinuation of Enteral Feeding in Head and Neck Cancer: A Case Report

Kyle Fisk, MD¹ and Ana Sanchez, MD¹

Author affiliations are listed at the end of this article.

Correspondence to:
Kyle Fisk, MD
(khfisk@gmail.com)

Abstract

Introduction

The goal of palliative care is to preserve the quality of life or patient “comfort” in patients with serious diseases. Palliative care providers serve a wide range of patients: from those who seek curative treatment to those who are actively dying. Given this range, palliative care must mirror the dynamic goals of the patient at different stages of life and treatment. Throughout these stages, a goal of the palliative care provider would be to avoid hastening death; however, this often leads to clinical decisions that directly pit the patient’s comfort against the patient’s life span. This is most salient with clinical decisions of withdrawing treatments that prolong life even at the expense of comfort. An example of this dichotomy can be seen when providers use enteral nutrition to treat head and neck cancer patients.

Case Presentation

We describe a patient with stage IV pancreatic cancer with metastases to her head and neck. The patient was experiencing increased morbidity related to her percutaneous endoscopic gastrostomy (PEG) tube feeding. These complications included tube-related concerns such as infection, leakage, and diarrhea but also decreased intended benefits as she lost weight and functionality while maintaining enteral feeding. Despite the patient experiencing a common and expected disease course, she remained unsure and was fearful about considering discontinuation of her enteral feeding. However, the care team who understood the risks, benefits, and harms related to withdrawal provided a foundation of discussion and mitigated patient fears, allowing for the successful removal of her PEG tube and increased quality of life at the end of life.

Conclusion

To care for a patient in their entirety is also to care for them at all stages of disease. Care is not limited to those who might be cured of disease, but should also consider those who continue to live with disease and the downstream effects of medical interventions used to support them. Discontinuing treatments whose harms outweigh the benefits to patients is a moral imperative to providers; yet, how providers approach discontinuing life-prolonging treatment is seen as morally distressing. Our patient did not see the discussion as morally distressing and continued to benefit from active discussions even at the end of her life.

Keywords

head and neck cancer; head and neck neoplasms; enteral nutrition; goal-directed care; hospice medicine; hospice care; quality-of-life; palliative care; case report

Background

Patients who receive enteral nutrition support during treatment for cancer of the head and neck have reduced complications related to malnutrition, and there is some evidence to suggest there may be decreased interruptions in receiving chemoradiotherapy and improved

quality of life.^{1,2} For patients receiving chemoradiation therapy (CRT), most treatment guidelines recommend enteral nutrition.³⁻⁶ Percutaneous endoscopic gastrostomy (PEG) tube feeding has been shown to be more effective than oral nutrition alone in cases in which the patient undergoes several weeks of CRT.⁴ How-

ever, the placement and maintenance of a PEG feeding tube are not without risk of complications and many complications require more aggressive management advancing to hospitalizations, procedures, or advancing to more risky nutrition interventions such as parenteral nutrition.^{4,6,7}

The discontinuation of an intervention involving “life-prolonging” medical equipment can pose significant psychosocial stressors on patients, caregivers, and providers as many recognize the benefits and sense of security they can provide.^{4,8-10} However, nutritional support risks and benefits are dynamic in progressive disease cancers involving the head and neck, and a discussion of these interventions with the patient is recommended by several in the literature.^{4,6,9} These findings and recommendations lead to the question: When is it appropriate to withdraw enteral nutrition and how can providers assist patients with this decision? Ultimately, avoidance of discussing discontinuation also leads to many patients enduring the burden of ongoing enteric equipment without enjoying perceived benefits.

Case Description

A 70-year-old patient with stage IV pancreatic cancer with metastases to her tongue and mouth had received extensive treatment for her disease over an approximately 6-month period. Her diagnosis has a 5-year survival of ~3%.¹¹ She had undergone multiple procedures including the resection and reconstruction of the tumor burden in her head and neck as well as PEG tube placement for nutrition. The patient enrolled in hospice and reached out to the hospice team regarding complications from her PEG tube.

In the months leading up to her assessment, she had required multiple revisions for the placement of the PEG tube, related to tube obstructions and peristomal gastric leakage. Similar to many patients receiving tube feedings, our patient reported diarrhea, refractory to modifications of feeding regimens, which had been present since initial placement months prior when she was still receiving chemoradiotherapy. Since her admission to hospice, her ostomy site was further complicated by a peristomal skin infection, which partially responded to topical and oral antifungals but complete

skin healing was hampered by persistent gastric leakage. She denied any bleeding around the ostomy site and denied nausea, vomiting, coughing, or choking. Providers discussed their concern for ongoing complications of the peristomal leakage in the context of gastric hypersecretion related to oral feeds as well as patient malnutrition that inhibited proper wound healing.

She developed fatigue, weakness, weight loss, and dry mouth from her underlying cancer. She was cachectic with scarring on her head and neck and residual hardware implantation from surgical resections and reconstructions. Functionally, she experienced ambulatory dependency on a walker and had experienced several falls. She lived independently without any family support but received strong support from her immediate social network of friends and neighbors who were present at the time of her assessment. Despite being alert and often joking with providers, she was significantly dysarthric making communication difficult and often frustrating for the patient.

Treatment, Outcome, and Follow-up

The patient adamantly refused to present to an inpatient unit for adjustment of the tube itself and also refused to have a new tube inserted if it was indicated when discussing management. She and her support network expressed concerns about the patient experiencing suffering as well as the potential need for the PEG tube in the future. Furthermore, the patient expressed her hope to transition to oral feeds alone. This despite her understanding that she was losing weight, even with enteral feeds, and that withdrawal would result in further weight decline. In the context of the patient's wishes, providers discussed and then proposed three choices of management:

1. Continuation of current care including optimization of topical management of the ostomy with zinc barrier creams and skin protectants as well as antifungals for suspected fungal peristomal infection. Decreased volume oral intake of meals in hopes of decreasing hypersecretion. Continuing her proton-pump inhibitor with frequent dressing changes and ongoing troubleshooting of maintenance of the ostomy site.

2. Discontinuation of ostomy tube without replacement. The patient would understand that she would be foregoing any current benefits of the tube including nutrition or serving as an alternative route for medications. However, this option would likely be associated with a decreased tube-feed side-effect burden. Providers noted that aspiration prevention was not a benefit of the PEG tube.
3. Discontinuation of ostomy tube with replacement. Providers discussed that at this stage of treatment, this course would likely require procedural intervention and a need for inpatient management.

After a week of deliberation, the patient chose to discontinue the PEG tube. Subsequent evaluations by hospice nursing and home aids reported improvement in symptoms related to the ostomy site. Pleasure feeds were provided without reported changes in fatigue, mood, or social activities. In the following days, the patient denied any peristomy-scarring site leakage, pain, or skin irritation. She no longer experienced side effects related to tube feedings including diarrhea. The patient remained at her functional baseline thereafter; however, she suddenly died within the following 2 weeks due to a presumptive acute cardiopulmonary event.

Discussion

Stage IV pancreatic cancer has been shown to have high mortality with a 5-year survival of ~3%.¹¹ Patients with oligometastatic cancers of the head and neck also have a poor survivability of ~16% over a 5-year period, but fare significantly better than metastatic pancreatic cancer patients with aggressive treatments.¹² Several organizations and authors have published practice guidelines for PEG tube placement with the presence of head and neck cancer as an appropriate indication for placement with mortality benefit.^{3,13} A meta-synthesis of qualitative data concerning head and neck cancer patients with enteral feeding concluded that patients qualitatively reported benefits in the initiation of enteral feedings, reportedly “restoring a sense of agency”, “learning to eat again”, and the “feeding tube [value] as a lifeline”.¹⁰ For the first several months of treatment, our patient seemed to follow along with these trends including gathering the mindset of valuing the PEG tube as a tool to prevent suffering.

Enteral feeding is not always a benign process. Literature reviews on the care and maintenance of enteral feeding note that up to 30% of patients experience complications related to PEG.^{7,13} Even rarer, as was the case in our patient, 1% of patients experience peristomal leakage for which procedural replacements are recommended in the current literature. Furthermore, the benefits and burdens of enteral feeding vary based on the stage of disease and the prognosis.⁹ The current literature is lacking regarding the benefits of PEG feeding to patients no longer receiving CRT, as was the case for our patient. However, studies that have shown the benefits of “nutrition” in long-term outcomes noted some symptom improvements shown during CRT that were not maintained.^{10,14,15} Others who reported long-term nutrition benefits did not describe enteral nutrition or PEG tubes explicitly as a method of achieving this goal. Instead, they emphasized beneficial results in those who successfully transitioned back to oral nutrition.¹⁶

Despite a reasonably clear understanding of this dynamic process, discussing these issues and potential outcomes with a patient or caregiver can be a challenge for providers. A qualitative study interviewing caregivers of patients who had withdrawn nutritional support showed a wide array of perspectives toward the practice, often with significant internal conflict. Family members reported the burden of witnessing their loved ones deteriorate while simultaneously gaining a sense of peace.⁸ Ethical considerations and legal ramifications have also created a significant barrier to having the discussion of withdrawal. Despite these challenges, several researchers have recommended these provider and patient discussions and the documentation thereof, in order to respect the choice and autonomy of the patient.^{3,9,10,13}

Conclusion

We reported on a 70-year-old patient with malignancy of the pancreas complicated by metastases to the head and neck. Enteral feeding in head and neck cancer is often a beneficial intervention at certain stages of illness; however, benefits must be weighed against complications and risks that shift dramatically during the disease process. Providers may facilitate revisiting the risk/benefit profile to the benefit of the patient. This process may even result in

withdrawing enteral nutrition depending on the patient's understanding of their history, their active issues, and their goals for the future of their care.

Future research should be focused on specifically observing longitudinal morbidity and mortality outcomes with head and neck cancer patients who receive PEG tube feedings. These outcomes may warrant attachment to objective surrogate data to better quantify benefits/risks (ie, get up and go scores, mean arm circumference monitoring, or another surrogate for muscle mass, weights, and mental status scores). Furthermore, for patients with head and neck cancer secondary to metastatic lesions as seen in this patient, the risk/benefit profile of enteral feeding may be even more variable and requires further study.

Conflicts of Interest

The authors declare they have no conflicts of interest.

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Author Affiliations

1. HCA Florida Orange Park Hospital, Orange Park, FL

References

1. Salas S, Baumstarck-Barrau K, Alfonsi M, et al. Impact of the prophylactic gastrostomy for unresectable squamous cell head and neck carcinomas treated with radio-chemotherapy on quality of life: prospective randomized trial. *Radiother Oncol*. 2009;93(3):503-509. doi:10.1016/j.radonc.2009.05.016
2. Silander E, Nyman J, Bove M, Johansson L, Larsson S, Hammerlid E. Impact of prophylactic percutaneous endoscopic gastrostomy on malnutrition and quality of life in patients with head and neck cancer: a randomized study. *Head Neck*. 2012;34(1):1-9. doi:10.1002/hed.21700
3. Hazzard E, Gulliver S, Walton K, McMahon AT, Milosavljevic M, Tapsell L. The patient experience of having a feeding tube during treatment for head and neck cancer: a systematic literature review. *Clin Nutr ESPEN*. 2019;33:66-85. doi:10.1016/j.clnesp.2019.07.005
4. Bossola M. Nutritional interventions in head and neck cancer patients undergoing chemoradiotherapy: a narrative review. *Nutrients*. 2015;7(1):265-276. doi:10.3390/nu7010265.
5. Bressan V, Bagnasco A, Aleo G, et al. The life experience of nutrition impact symptoms during treatment for head and neck cancer patients: a systematic review and meta-synthesis. *Support Care Cancer*. 2017;25(5):1699-1712. doi:10.1007/s00520-017-3618-7.
6. Cotogni P, Stragliotto S, Ossola M, Collo A, Riso S, On behalf of The Intersociety Italian Working Group For Nutritional Support In Cancer. The role of nutritional support for cancer patients in palliative care. *Nutrients*. 2021;13(2):306. doi:10.3390/nu13020306
7. Blumenstein I, Shastri YM, Stein J. Gastroenteric tube feeding: techniques, problems and solutions. *World J Gastroenterol*. 2014;20(26):8505-8524. doi:10.3748/wjg.v20.i26.8505.
8. Kitzinger J, Kitzinger C. Deaths after feeding-tube withdrawal from patients in vegetative and minimally conscious states: a qualitative study of family experience. *Palliat Med*. 2018;32(7):1180-1188. doi:10.1177/0269216318766430.
9. Porter K, Burch N, Campbell C, et al. Supporting people who have eating and drinking difficulties. *Clin Med (Lond)*. 2021;21(4):e344-e350. doi:10.7861/clinmed.2021-0161.
10. Thomas A, Sowerbutts AM, Burden ST. The impact of home enteral feeding on the daily lives of people with head and neck cancer: a metasynthesis of qualitative studies. *J Hum Nutr Diet*. 2020;33(4):538-549. doi:10.1111/jhn.12724.
11. Siegel RL, Miller KD, Jemal A. Cancer statistics, 2017. *CA Cancer J Clin*. 2017;67(1):7-30. doi:10.3322/caac.21387.
12. Weissmann T, Höfler D, Hecht M, et al. Oligometastatic head and neck cancer: which patients benefit from radical local treatment of all tumour sites?. *Radiat Oncol*. 2021;16(1):62. doi:10.1186/s13014-021-01790-w.
13. Friedrich L. End-of-life nutrition: is tube feeding the solution?. *Ann Longterm Care*. 2013;21(10).
14. Bjordal K, Ahlner-Elmqvist M, Hammerlid E, et al. A prospective study of quality of life in head and neck cancer patients. Part II: Longitudinal data. *Laryngoscope*. 2001;111(8):1440-1452. doi:10.1097/00005537-200108000-00022
15. Mercuri A, Lim Joon D, Wada M, Rolfo A, Khoo V. The effect of an intensive nutritional program on daily set-up variations and radiotherapy planning margins of head and neck cancer patients. *J Med Imaging Radiat Oncol*. 2009;53(5):500-505. doi:10.1111/j.1754-9485.2009.02105.x.

16. Crowder SL, Douglas KG, Yanina Pepino M, Sarma KP, Arthur AE. Nutrition impact symptoms and associated outcomes in post-chemoradiotherapy head and neck cancer survivors: a systematic review. *J Cancer Surviv.* 2018;12(4):479-494. doi:10.1007/s11764-018-0687-7