

EARLY ORAL FEEDING IN PATIENTS SUBMITTED TO ESOPHAGECTOMY: ANALYSIS OF THREE CASES

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ABSTRACT

Esophagectomy is a standard treatment in conditions such as esophageal cancer and advanced achalasia that has high morbidity and mortality and high cost. In the postoperative period, patients are fasted orally for a variable period due to the increased risk of aspiration pneumonia and anastomotic fistula, with nutrition normally guaranteed by enteral or parenteral route. Early oral feeding has been shown to be the best alternative in the postoperative period, reducing days of hospitalization without increasing the rate of complications. This study aimed to describe three cases of total esophagectomy performed in two tertiary hospitals in Belo Horizonte - MG, evaluating the early oral diet started on the first postoperative day following the ERAS[®] protocol. This is a series of cases carried out between March 2019 and March 2020. Among the three patients included, one of them had esophageal cancer while the others had achalasia. All received a liquid-restricted diet on the first postoperative day, progressing without complications during hospitalization. Only one patient presented complications after discharge (dysphonia) with complete recovery after rehabilitation measures. There is a good evolution from the early oral diet, but more controlled and randomized studies are needed.

KEYWORDS: Esophagectomy. diet. thoracic surgery. ERAS surgical oncology, case report.

INTRODUCTION

Esophagectomy is the gold standard treatment for patients with conditions such as potentially resectable esophageal cancer, advanced achalasia, advanced megaesophagus, caustic lesions, among others,^[1] and because it is a major surgical procedure, it requires the best possible postoperative management to be provided to patients. It is a procedure that presents high morbidity and mortality, high cost and should be performed in health services with intensive care units, in addition to pre- and postoperative care.^[2] Management by a multidisciplinary team composed of physiotherapy, speech therapy, psychology, nursing, medicine and nutrition is extremely important and necessary.^[3,4]

Usually in the postoperative period, patients are kept fasting orally for a variable period due to the supposed increased risk of aspiration pneumonia and anastomotic fistula. To ensure adequate nutrition, nasogastric tubes and jejunostomies are used^[5] and the most common

postoperative nutritional support methods in these cases are enteral nutrition and parenteral nutrition.^[5,6] Enteral supply should be the first choice and there are three possible pathways, early oral feeding, nasogastric tube or via jejunostomy. The introduction of the early oral diet is part of the evaluation of the ERAS[®] (Enhanced Recovery After Surgery) protocol, which consists of the implementation of specific interventions in the perioperative period, with the objective of improving the patient's recovery, shortening the hospitalization period and reducing postoperative morbidity and, consequently, costs.^[7] The concept of early oral diet in upper gastrointestinal tract surgeries was first evaluated in a randomized study in Norwegian in 2008.^[8,9] followed by few studies to date for specific evaluation of the introduction of early oral diet in the postoperative period of esophagectomy. The recommendations of the ERAS[®] guidelines for esophagectomy was published in 2019 cites the introduction of the early oral diet as a possibility

to be evaluated, but still without clear elucidation in the literature.^[10,11]

The aim of this study was to describe three cases of total esophagectomy performed at Hospital Alberto Cavalcanti and Hospital Luxemburgo in Belo Horizonte - MG, in which using the ERAS[®] protocol for Esophagectomy we started the early oral diet in the 1st POD.

METHODS

This is a longitudinal, descriptive and retrospective study conducted through an analysis of patients followed by the Thoracic Surgery Service, operated with total esophagectomy from March 2019 to March 2020 at the Alberto Cavalcanti and Luxembourg hospitals in the city of Belo Horizonte - MG.

Patients operated during the described period of the study and who received an oral diet in a standardized sequence were included. In the first POD, the patients were evaluated by the Speech-Language Pathology and Audiology service of the respective hospitals in relation to the possibility of aspiration, the restricted liquid diet could be started in a supervised way always associated with the enteral diet by jejunostomy. If any degree of aspiration was perceived, only enteral diet would be started and further evaluation would be performed the next day. In the seventh POD, an esophagogram was performed on the patients and, after discarding alterations, a free oral diet was prescribed. Those

operated in the institutions without the participation of the thoracic surgery team were excluded.

Data were collected from the medical records of patients in each institution. For analysis, the following variables were considered: gender, age, disease, histological type, surgical risk, surgical time, day of speech therapy, comorbidities, enteral diet route, early complications, fistulas, days of hospitalization and complications after hospital discharge.

RESULTS

The medical records of 3 patients were evaluated, focusing on evaluating previously selected variables (Table I). The age range of the individuals ranged from 24 to 53 years, two males and one female. Some nutritional data were evaluated (table 2) Including only the cases operated jointly by the Thoracic Surgery team, we evaluated one patient diagnosed with mid-third squamous cell carcinoma of the esophagus and two patients with extensive achalasia refractory to clinical treatment, one of whom previously underwent two cardiomyotomy surgeries, without success in resolving the disease. in which esophagectomy was proposed as the last treatment option, being accepted by both patients. All patients were previously submitted to an anesthetic risk protocol, being classified as ASA II in the classification established by the American Society of Anesthesiologists (ASA). The surgical approach varied between them, with patients with benign disease undergoing transhiatal esophagectomy and the third undergoing transthoracic esophagectomy.

Table 1: Table Variables X Patients.

Variables	Patients		
	1	2	3
Gender	Female	Male	Male
Age	53	24	49
Illness	Achalasia	Achalasia	Achalasia
Histological type	Absence of malignancy	Absence of malignancy	Malignant
Anesthetic risk	ASA II	ASA II	ASA II
Surgery	Trans hiatal esophagectomy	Trans hiatal esophagectomy	Transthoracic esophagectomy
Surgery time	5 hours	8 hours	6 hours
Speech therapy assessment day	1st postoperative day	1st postoperative day	1st postoperative day
Comorbidities	Yes (left ventricular dysfunction)	No	No
Enteral diet way	Jejunostomy	Jejunostomy	Jejunostomy
Enteral diet start date	1st postoperative day	2st postoperative day	1st postoperative day
Oral diet start date	1st postoperative day	1st postoperative day	1st postoperative day
Type of oral diet initiated	Restricted liquid (water, juice and gelatin)	Restricted liquid (water, juice and gelatin)	Restricted liquid (water, juice and gelatin)
Early complications	No	No	No
Fistula	No	No	No
Discharge	7st postoperative day	7st postoperative day	7st postoperative day
Post discharge complications	No	Yes (dysphonia)	No
Resolution of postoperative complication	-	Yes	-

Table 2: Nutritional Data X Patients.

Nutritional Data	Patients		
	1 (h*: 62,59 in)	2 (h: 69,68 in)	3 (h: 64,96 in)
Weight/BMI to admission	128,9Ib/23,13	138,3Ib/20	133.8Ib/22,29
Weight/BMI in pre operative	126Ib/22,6	133.8Ib/19,37	U
Weight/BMI in postoperative/pre hospital discharge	U	127.1Ib/18,4	144.9Ib/24,14
Weight/BMI on 1st return after discharge	120.4Ib/21,6	139.2Ib/20,15	U

U: uninformed; h: height (inches); BMI: Body Mass Index.

The schedule for the initiation of the oral and enteral diet was agreed in a multidisciplinary manner, with the participation of the nutrition and speech therapy team since the first POD, the date on which the three patients were evaluated and restricted liquid oral diet was initiated. The enteral diet also followed the same pattern, with the exception of one patient for whom the second POD was initiated. The progression of the oral diet occurred gradually, according to the tolerance of each patient, evaluated through daily clinical examination, and all were discharged on their seventh postoperative day

adapted to the free and enteral oral diet in a volume appropriate to the total energy expenditure and after speech therapy release and esophagogram (Figure I). None of the three individuals evaluated presented postoperative complications during the first seven days. The rate of fistula or anastomotic dehiscence was zero. In outpatient late postoperative follow-up, one of the three patients complained of dysphonia, which was totally resolved after evaluation and therapy by the speech therapy team.



Figure 1: Esophagogram without evidence of cervico-mediastinal fistula.

In order to establish a standardization of case management, a flowchart (Figure II) was constructed pointing out the main directions, ending with the

performance of a control esophagogram on the seventh postoperative day prior to hospital discharge.

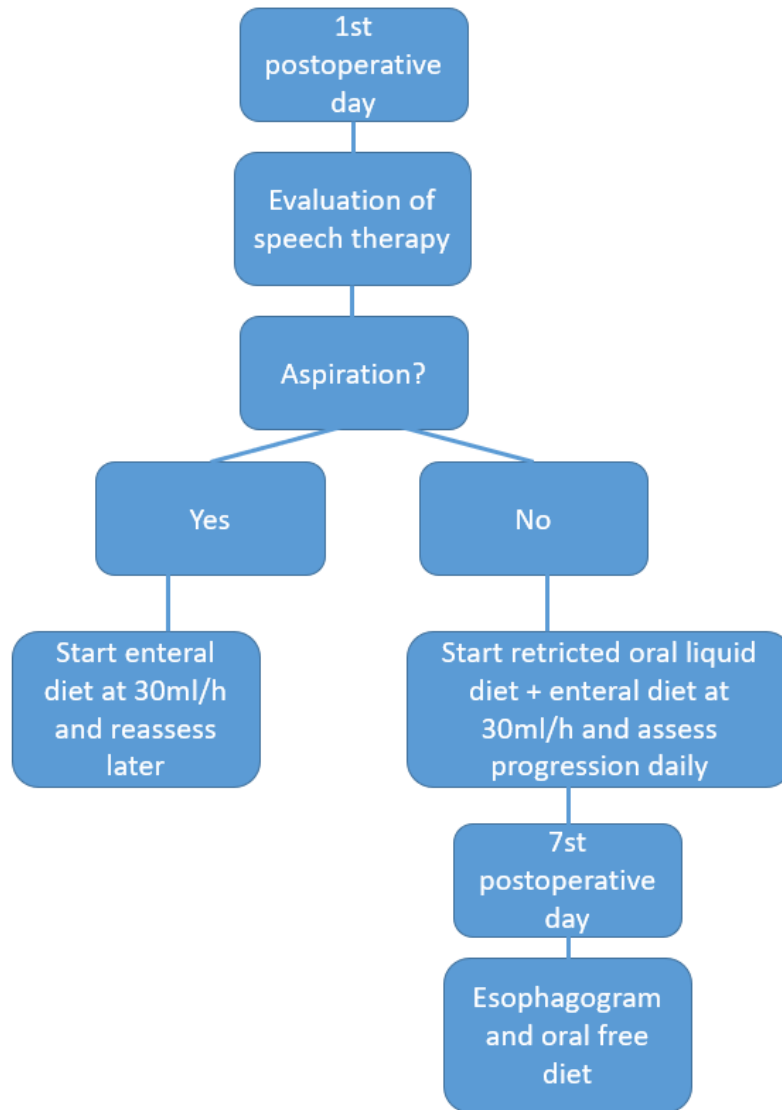


Figure 2: Flowchart.

DISCUSSION

With the advent of the ERAS[®] protocol, the intention to accelerate postoperative recovery is multidisciplinary, collaborative, evidence-based approaches to perioperative care based on scientific principles that optimize preoperative, intraoperative, and postoperative care, as well as provide transformative plans to minimize pain, reduce opioid administration, accelerate patient recovery, and reduce perioperative complications and length of hospital stay.^[10,11,12]

The introduction of early enteral nutrition after performing a surgical procedure of the digestive tract, such as total esophagectomy, has been treated as one of the main components to improve postoperative clinical recovery, preserving the integrity of the gastrointestinal mucosa and its immune functions.^[5,13] In the context of upper gastrointestinal tract surgeries, specifically in this study, the performance of esophagectomy, enteral nutrition has been predominantly administered through a

jejunostomy tube or nasoenteric tube, using the oral route only after a few days postoperatively. The high risk of anastomotic dehiscence and the incidence of aspiration pneumonia associated with recurrent laryngeal nerve lesions are the main reasons for maintaining the initially suspended oral route tradition.^[14]

In 2008, a randomized study with 453 patients showed that postoperative complications were similar between the group with early oral diet and the group with enteral diet by jejunostomy, with significantly shorter hospitalization time in the early oral diet group (mean of 13.5 days VS 16.7 days, P= 0.046) 9,15. Another prospective study evaluated the effects of early oral diet in 50 patients, the diet was started in the 1st DPO and evaluated the presence of complications such as anastomotic fistula, pneumonia, aspiration and mortality. There was no rate of increase in complications when compared to the control group in which the diet was started in the 5th POD, patients with early oral diet had shorter hospitalization time.^[5]

Thus, the encouragement of the introduction of the early oral route has been increasingly encouraged, aiming at better physiological, psychoemotional and financial results, in order to reduce the hospitalization period of patients.

The present analysis demonstrated from three patients submitted to esophagectomy in two health services in the city of Belo Horizonte, Brazil, following the ERAS[®] protocol, we were successful in reintroducing the oral diet associated with enteral nutrition via jejunostomy previously made since the first POD. Despite having a small number of individuals analyzed, these were three patients with different profiles, showing that the early introduction of oral feeding can be feasible as long as they are taken with due precautions. Throughout the postoperative hospitalization, patients were daily evaluated by a multidisciplinary team composed of speech therapists, physiotherapists, psychologists, nutritionists, doctors and nurses. The oral diet was only introduced after release of the speech therapy team in the first POD, and the intake was always performed in an assisted manner, with the patient always sitting and we chose to keep the head of the bed continuously elevated to 30 degrees during the period of decubitus for rest.

Questions were raised regarding diet tolerance and well-being with it, occurrence of nausea or vomiting, gastric distention and signs suggestive of clinical worsening. From this, the progression of the diet was performed, both orally and jejunostomy. All three patients were discharged on the seventh postoperative day without presenting complications, which could be mainly: pneumonia, anastomotic dehiscence, arrhythmia, fistulas, sepsis, surgical site infection, hemorrhage, recurrent laryngeal nerve injury, among others.^[16]

To date, there are only four studies that have tried to evaluate the applicability and safety of the introduction of the early oral diet after an esophagectomy.^[6] In all of them, the results were presented in a similar way, with the evolution of the cases in a positive way in its majority. However, it is still a small sample, requiring new randomized and controlled studies with more representative sampling.

The present study is in line with the other pre-existing studies and being only an analysis of 3 cases, limited to two health services in the city of Belo Horizonte, it does not aim to institute protocols or implement conducts, being only to point out in an expository way the importance and positive aspects of the introduction of the oral restricted liquid diet in the 1st POD, which can be used for treatment, rehabilitation and general well-being of the patient. The proposed indication of esophagectomy to patients in the final stage of achalasia has been described in the literature as a therapeutic option in centers with experience in esophageal surgery.^[17,18] was due to the failure of all other treatments and was also shown to be an option in selected cases.

It is noteworthy that the results of this investigation portray an advance in medical practice, teaching and research. In addition, it reinforces the current deficiency of studies and evidence regarding postoperative nutrition of esophagectomy. In the near future, prospective, randomized and preferably multicenter studies should be conducted to evaluate the safety and efficacy of the introduction of the early oral diet and a multidisciplinary team is essential to provide better care to patients.

CONCLUSION

The introduction of an early oral diet in the postoperative period of esophagectomy is feasible and can be used as an adjunct in nutritional rehabilitation along with the enteral diet by jejunostomy, providing a well-being to the patient. It still lacks more robust randomized studies so that it can demonstrate its efficiency and consequently increase the level of scientific evidence.

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