CASE REPORT: THE IMPORTANCE OF MULTIPROFESSIONAL CARE IN SUPRACRICOID LARYNGECTOMY

Relato de caso: a importância da atuação multiprofissional na laringectomia supracricóide

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ABSTRACT

This study is about the perfomance multiprofissional on laryngectomy supracricoid. The speech therapy in the hospital was carried out twice a day, after 14 sessions, pasty consistency was released. The patient returned to the disfagia outpatient of the hospital, once a week for two months and now returns once a month. Nutritional therapy nasoenteric probe (NEP) allowed the necessary caloric intake and hydration and, through the release of consistency by oral Audiologist, the nutritionist expanded the options of foods that the patient could eat, favoring the profit of weight and withdrawal of the alternative way of feeding. The multiprofessional intervention enabled the degree of oropharyngeal dysphagia mechanical evolve from severe to mild oropharyngeal dysphagia for liquids only, being the evolution of therapy being verified through the patient's oral intake, which evolved from a FOIS 1 for FOIS 3 and is currently third in the FOIS 6. The realization of enteral nutrition therapy enabled the patient to regain his usual weight, on three months period, considering that with surgery, it lost 11 kg. It was noted that through the accompaniment multiprofessional, was possible evolve from an exclusive enteral nutrition to oral diet, which favored the evolution of nutritional status, with the recovery of body weight, addition to providing improved quality of life of this person.

KEYWORDS: Deglutition Disorders; Weight Loss; Laryngectomy; Enteral Nutrition; Patient Care Team; Rehabilitation

INTRODUCTION

According to the National Cancer Institute (Instituto Nacional do Câncer – INCA)[1], laryngeal cancer is the second most frequent disease in the aero digestive tract, being responsible for 25% of malignant cases of head and neck cancer. It most often affects males, age group between 50 to 60 years old, presenting as the main etiology tobacco and alcohol consumption, their association being a potentiation factor for the emergence of cancer [2].

In most cases laryngectomy, i.e., surgical cancer removal is the treatment of choice, and it is possible

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to remove the laryngeal structures partially or completely. Supracricoid laryngectomy is characterized by horizontal resection of the structures above the cricoid cartilage, being this indicated in cases of transglottic tumors, preserving one or two arytenoid cartilages and the epiglottis[2]. The remaining structures continue performing the respiratory function, deglutition and voice production, although most of times therapy is required for functional restoration[2].

Laryngeal resections have the most influence in the deglutition function, resulting in mechanical dysphagia, which is characterized by difficulty swallowing in the oropharyngeal phase, the central neurologic control and the peripheral nerves remaining intact [3]. In this context, dysphagia may alter food progression through the digestive tract, and as a result its entry into airway, giving rise to cough, suffocation/asphyxia, aspiration, lung problems and, the most severe complication, aspiration bronchopneumonia[4,5].

In cases of laryngectomy, the speech therapist should be present since the hospital admission phase together with the multiprofessional team, providing preoperative orientation, and bearing in mind the several sequelae related to deglutition. Also, this professional should take part in the immediate postoperative period in order to reassure the individual regarding communication difficulty and to strengthen therapist-patient link, which is crucial for adherence to the therapeutic process [2,3,6].

The presence of dysphagia may compromise the nutritional status, leading to weight loss as a result of dietetic inadequacy, since the individuals undergo food consistency restrictions as an attempt of adaptation to the symptom, thereby reducing total caloric intake required for appropriate nutrition, which may directly interfere with the postoperative recovery process[7].

Protein-calorie malnutrition is the most frequent comorbity in persons with cancer, and cachexia is inherent to the widespread forms of almost every entities of this kind. This pathology compromises the overall and nutritional status by means of multiple paths related to the disease mechanisms or to the therapeutics itself[8]. Therefore, nutritional assistance to oncology patient is not limited to nutritional needs calculation and its dietary prescription, but has the purpose of simultaneously recovering his nutritional status, normatizing body composition and nutritional deficits accumulated, assuring the vital system performance, such as the healing capacity and immune function, and last but not least, helping the improvement of the patient`s life quality [8].

In this context, malnourished patients may present minor responses to and performance during the treatment in addition to the increased risk of postoperative complications. That is why the aim of nutritional oncology therapy is to improve the response to the treatment methods and the nutritional status maintenance and recovery[9].

The I Consenso Nacional de Nutrição e Disfagia (2011)[10] emphasizes that dieting guidance should be individualized. Caution regarding the risk of aspiration and the choice of the appropriate access way for feeding help prevent malnutrition in patients with dysphagia, where multiprofessional team care is needed in order to achieve effective recovery so that nutritional and phonoaudiological association will allow the best results for the patient recovery process as a whole.

Thus, integrated action of the speech therapist and nutritionist is essential for the patient benefit, as phonoaudiological assessment and assisted release of food consistency will allow the nutritionist to prescribe the best diet for each specific case. This way, the multiprofessional approach proves to be necessary for the subject care as a whole. Besides, in addition to the fulfillment of their needs, a joint effort makes it possible to potentialize the evolution along the therapeutic process and promote recovery of the individuals subjected to supracricoid laryngectomy.

As such, the purpose of the present paper was to report the experience of multiprofessional performance in a case of supracricoid laryngectomy in the presence of dysphagia.

CASE PRESENTATION

This study addresses the case of a 57 year-old male subject, former smoker, having an anatomopathological diagnosis of moderately differentiated and ulcerated epidermoid carcinoma in right vocal fold, who due to the delay in performing tumor resection and the resulting increase of injury, had to undergo supracricoid laryngectomy. Reconstruction was made by means of a procedure referred to as crico-hioidoepiglotopexia (CHEP). In this procedure there occurs the linkage of cricoid cartilage to hyoid bone associated to the preservation of the basis of epiglottis, an important factor for the prognosis of possible phonoaudiological sequelae [2,11].

The patient was given phonoaudiological follow-up since the preoperative period, where together with the nursing staff, guidance was given addressing every issue related to communication and deglutition difficulties. After surgery, on the seventh postoperative day, the resident doctor required a phonoaudiological assessment to determine the possibility of changing the tracheotomy plastic cannula to a metal one, and the risk of salive aspiration was identified, i.e., the patient

was aspirating salive, which made it impossible at that moment to proceed the phonoaudiological assessment, neither the cannula exchange nor the oral diet release. In order to identify salive aspiration a test with artificial blue dye was made, so that the patient had the salive stained and after a few minutes the tracheal aspiration process was carried out and the test was considered positive, as a bluish secretion released into the aspiration probe was observed[12].

In face of such a finding, the patient`s oropharyngeal dysphagia was regarded as severe degree[13], characterized by the impossibility of oral feeding associated to the risk of tracheal aspiration. Immediately after the evaluation the patient initiated the phonoaudiological indirect therapy for deglutition.

The patient underwent different phonoaudiological therapeutic approaches, starting with indirect deglutition therapy, which aimed to improve conditions such as strength, mobility e sensibility of stomatognathic system structures without the use of food[14]. The techniques employed in indirect therapy were: exercises to foster laryngeal lift (lingual displacement- exteriorization technique)[2], postural maneuver (head upside down) [14] and deglutition facilitator maneuver (supraglottic) [14].

The evolution of phonoaudilogical deglutition therapy was tracked by the use of the *Functional Oral Intake Scale*- FOIS[15]*,* which is classified into seven specific levels according to the amount of oral intake.

When reassessing deglutition by the blue dye test, stained secretion into the aspiration probe wasn't observed and the cannula exchange from plastic to a metal one was suggested. In addition, direct deglutition therapy[14] was started by releasing oral intake of pasty consistency, in the presence of the oral therapist during meals advising on the intake volume and the lower airway protection maneuvers during deglutition.

After hospital discharge, the patient proceeded phonoaudiological therapy with outpatient follow-up. The outpatient approach aimed the rehabilitation and dysphagia management by giving the family members advice regarding the patient care and the follow-up of resumption of oral feeding function in his daily routine.

Regarding the nutritional status, in the assessment prior to the surgical procedure, the patient presented 82 Kg, was 1,77 cm tall and had a Body Mass Index (BMI) of 26,1 Kg/m², being overweight according to WHO (1997)[16]. In the postoperative period, due to the impossibility of oral feeding Enteral Nutritional Therapy (ENT) was initiated.

At the discharge, the patient was advised regarding enteral diet at home and referred to the Nutritional Therapy outpatient service not only to monitor his nutritional status but also to make the necessary nutritional interventions.

A week after discharge, the nutritional outpatient follow-up was carried out, aiming the continuity of care and assuring the nutritional status reversal, as the patient had lost 11 kg after surgery. From this moment on nutritional therapy evolved according to the phonoaudiological assessment and the consequent release of consistencies. This moment provided the family members with the appropriate guidance regarding the patient`s diet and its evolution, as well as the multiprofessional team interaction.

This paper was approved by the Research Ethics Committee, Santa Maria Federal University, under number 0196.0.243.000-11, and the subject whose data were used had previously signed an Informed Consent Form (ICF).

RESULTS

Phonoaudiological therapy was carried out twice a week. The patient was reassessed after 14 sessions and it was noted that he didn't aspire neither salive nor the pasty consistency, but due to his nutritional needs and significant weight loss he had to return home using the nasoenteral probe. In terms of oral intake, at this stage the patient evolved from FOIS level 1 (anything orally) to FOIS level 3 (alternative path-dependent with food or liquid consistency orally).

The patient would return to the dysphagia outpatient service once a week for two months, proceeding with the glottic coaptation exercises, with such techniques as push technique, punching the air, hands against a wall and hands pushing a chair[2], being performed in three series of 15 repetitions. After this period, the assessment of solid and liquid consistencies was carried out, the latter still in need of volume control and lower airway protection maneuver, and the patient started to visit the outpatient service fortnightly.

Currently the patient is in FOIS level 6 (multiple consistencies released), but still requiring special preparation and restriction of certain foods, mainly those containing liquid. The patient is under phonoaudiological management of deglutition function, as he still presents mild oropharyngeal dysphagia for liquid consistency[13], visiting the outpatient service on a monthly basis.

Regarding nutritional issues, in the first postoperative visit the patient weighted 71 Kg, with weight loss (WL%) of 13% in a month. The patient daily

energy needs (DEN) were 2130 Kcal, calculated through pocket formula according to recommendation of the Consenso Nacional de Nutrição Oncológica (2009) [17], which establishes 30 Kcal/Kg of body weight (BW) for patients in eutrophy, for protein 1,2g/Kg of BW, thereby receiving 85g protein per day. And also water intake of 200 ml six times a day in the intervals of diet and 20 ml before and after diet administration, totalizing 2040 ml/day of water.

Due to the presentation of dysphagia associated to a severe weight loss, the patient started with nutritional therapy through nasoenteric probe (NEP), receiving 300 ml of polymeric diet with calorie density of 1.2 six times a day. Then pasty consistency was released by the speech therapist and, after improved deglutition, the patient started to accept the oral diet (OD) in a greater volume, increasing his body weight to 77 Kg, which indicated his food consumption was reaching the DEN.

Due to the good acceptance orally, enteral nutrition volume was reduced to 300 ml five times a day and, as the intake volume represented more than 60% of DEN, the patient made a full recovery of his usual weight of 82 Kg. The case was discussed with the speech therapist and the decision was the NEP removal and the maintenance of oral supplementation, with the use of thickener for liquid consistency, taking into account the context of mild dysphagia for liquids still presented by the patient.

In the last consultation at the outpatient nutrition service the patient presented body weight of 84 Kg and appropriate food intake, with satisfactory acceptance of oral supplement. According to the phonoaudiological assessment, the patient was not in risk of aspiration at all, and water consumption was released, despite the need of some protection maneuver of lower airway.

DISCUSSION

Literature emphasizes that laryngeal cancer attacks most often males, age group between 50 to 60 years old, presenting as its primary etiology tobacco use[2,11,18]. This fact is also observed in the case at hand, as the patient had been using tobacco for 25 years and the development of cancer appeared in the 50thdecade in life.

Supracricoid laryngectomy is a surgical procedure that allows the preservation of speech and deglutition with the utilization of permanent tracheostomy, although important sequelae remain in the deglutition function and speech articulation in addition to influencing oral intake, which compromises the patient recovery[6, 19]. However, although this kind of surgery still be poorly described in the literature regarding functional aspects, speech therapy allows the possibility of deglutition adequacy and resume of oral feeding is observed (nasoenteral probe removal – NEP and tracheostomy) and voice pattern enhancement[11].

Literature refers to the need of appropriate clinical deglutition assessment to identify early cases of dyphagia in hospitalized patients, aiming the improvement of overall clinical status. The earlier the phonoaudiological intervention, the higher will be the chances of improvement, and as a result the decrease in the length of hospitalization [6,20].

In this study the realization of videofluoroscopy, which is an objective deglutition examination regarded as a golden pattern to identify the presence of dysphagia, was not necessary as through clinical assessment the blue dye test was regarded as positive, evidencing secretion release in the peritracheal region and also in the aspiration process was seen the presence of blue dye inside the probe.

In the present study, vocal assessment was not carried out nor discussed as, although important, data related to the voice before surgery were not collected, which made it impossible the information before and after rehabilitation to be compared. However, it is stressed that perceptively the voice quality improved, which may be related to the techniques employed for dysphagia rehabilitation.

In Furkim e Sacco's (2008)[21] study, it was noted that speech therapy in hospital environment helped patients with dysphagia progress safely to oral intake, and this fact directly impacted hospital costs and decreased the length of hospitalization for patients with dysphagic condition.

In Saconato, Andrade, Ferraz, Sugueno`s (2008) [22] research, which aimed to collect data regarding the rehabilitation process of patients treated for supracrocoid laryngectomy, the authors verified that the sample subjected to treatment had evolved with probe removal e tracheostomy. In their study, phonoaudiological bedside intervention was performed in six different moments on average, after which the intervention continued in outpatient level, with speech therapy carried out twice a week, focused mainly on exercises to protect the airway, laryngeal lift, tongue base strength and pharyngeal mobility.

In the present study, the patient underwent 14 therapy sessions in the hospital environment, being these carried out twice a day, having similar objectives as the abovementioned research. Through these procedures, in the reassessment the patient didn't aspire salive and pasty consistence, which was released.

If mechanical dysphagia resulting from supracricoid laryngectomy persists after hospital discharge, patients must be given outpatient care

for the deglutition function to be reestablished or the aspiration risk to be minimized. In Saconato, Andrade, Ferraz, Sugueno`s (2008)[22] study, after hospital discharge patients were given outpatient care on a weekly basis highlighting direct and indirect deglutition therapy.

Lewin and col.(2008) [6] highlight in their study that the use of maneuvers to improve deglutition helped reduce or eliminate the risk of aspiration in 64% of the patients who used to aspire during deglutition. Moreover, they verified that the supraglottic maneuver was effective for dysphagia improvement in 57% of the patients.

In the case at issue, the patient attended the dysphagia outpatient service on a weekly basis to undergo therapy. After the decrease of symptoms, the period between the sessions was getting longer, and he currently attends on a monthly basis for phonoaudiological management.

In the study conducted by Nemr and coll. (2007)[11] with patients submitted to supracricoid laryngectomy, the researchers verified that 59% of the sample showed moderate degree of dysphagia, being the association of dysphagia degree with the type of reconstruction CHEP statistically significant. This information turns to be important for the speech therapist as the type of reconstruction directly influences the determination of the therapeutic plan for that patient, as well as the prospect of functional improvement of deglutition.

Lewin and coll. (2008)[6] highlighted in their research that after supracricoid laryngectomy procedure, the functional alteration every patients showed was a glottic incompetence, being this difficulty related to liquid consistency. They also reported that this kind of surgery results in severe dysphagia with the risk of aspiration. However, appropriate intervention enabled the return to oral intake in 85% of cases. This difficulty was also seen in the case at issue, considering that after intensive phonoaudiological intervention, the patient continued with mild dysphagia for liquids only.

The impact of nutritional risk in a dysphagic hospitalized patient is clear and for this reason the speech therapist is not supposed to just target the improvement of dysphagia itself, but also the enhancement of the patient`s nutritional aspect [23]. Therefore, it is important that the speech therapist and nutritionist work in partnership, by discussing the best consistency and the release of diet for each patient[20], aiming to reduce the chances of malnutrition in the hospital environment [23-25].

The study of Gevaerd and coll. (2008)[8], conducted with 95 cancer patients subjected to enteral nutritional therapy showed weight loss in 52.64% of these. This outcome corroborates the study of Dias *et al.* (2006) [26] , which showed 55% of weight loss in their study, in a sample comprising 20 patients with neoplasia in chemotherapy treatment. The same outcome as the case at issue, in which weight loss was over 10% of body weight, with subsequent recovery after outpatient care was initiated, stressing the importance of attention to and care of this kind of patient after hospital discharge.

Patients who were not able to feed orally in proper amounts should have the enteral route as a first choice, since the presence of nutrients in the digestive tract is crucial to maintain the gastrointestinal mucosa growth and function. ENT should be indicated when food intake doesn't meet the nutritional needs, and there is weight loss and/or the presence of diseases/surgeries that make it impossible oral intake, as long as the gastrointestinal tract be intact or partially functioning. [27].

The choice of this nutritional alternative route was a result of supracricoid laryngectomy immediate sequelae in the postoperative period, i.e., the evident risk of food aspiration, which made it impossible the immediate and exclusive release of oral intake. Dependent on this, and due to the significant weight loss, the patient required immediate and effective intervention in order to improve his nutritional status, as well as the maintenance of appropriate hydration.

According to Cuppari (2005)[28] e Araújo, Silva e Fortes (2008)[25], early nutritional therapy may benefit cancer patients who present inappropriate oral intake because of treatment symptoms or the surgical procedure itself. Outpatient follow-up is an important instrument in nutritional assistance and has proved to have a direct relationship with survival and a better responsiveness to the treatment. Therefore, outpatient follow-up favored the patient evolution, who showed improvement in his nutritional status, regaining the weight lost after surgery, as well as the release of nasoenteric probe and the reintroduction of oral diet.

The nutritional status deficit together with the loss of lean mass might be directly related to the increase of comorbity factors, among which we highlight immunity decrease, infections increase, damage to the scarring process and muscle weakness, and this fact may be related to an increase in the length of hospitalization [29,30]. In view of this, as important as the care in the hospital environment is outpatient care to cancer patients who after discharge still require nutritional advice.

The well-succeeded rehabilitation of dysphagia resulting from supracricoid laryngectomy will only be effective if the work carried out is interdisciplinary and involves integration[24] and, most of all, an effective communication among professionals, as was the case of Phonoaudiology and Nutrition

joint work. It should be stressed that in face of such a process, the laryngectomized patient will benefit the most, as he is seen as a whole and the actions taken will have the purpose of making it easier his insertion in society so as to improve his life quality.

CONCLUSION

It was verified that in this case of supracricoid laryngectomy, multiprofessional performance was crucial for the therapeutic process evolution. Such a fact shows the importance of multiprofessional support, nutritional consultation and phonoaudiological therapy, but much more than this, it shows that constant dialog between the nutritionist and speech therapist made it possible to match the procedures, aiming deglutition improvement, and the patient`s diet adequacy . This way, it was possible to progress from exclusive enteral nutrition to oral intake with pasty, solid and liquid consistencies, being the latter carried out with protection maneuver of lower airway, which favored the nutritional status evolution, together with the recovery of body weight, in addition to providing a better life quality for this subject.

RESUMO

Esse estudo tem como tema a atuação multiprofissional na laringectomia supracricóide. A terapia fonoaudiológica no hospital foi realizada duas vezes por dia, após 14 sessões, a consistência pastosa foi liberada. O paciente retornou ao ambulatório de disfagia do hospital, uma vez por semana durante dois meses e atualmente retorna uma vez ao mês. A terapia nutricional por sonda nasoentérica (SNE) possibilitou a ingestão calórica necessária e hidratação e, com a liberação da consistência via oral pelo Fonoaudiólogo, o Nutricionista ampliou as opções de alimentos que o paciente poderia ingerir, favorecendo o ganho de peso e retirada da via alternativa de alimentação. A intervenção multiprofissional possibilitou que o grau de disfagia orofaríngea mecânica evoluísse de grave para disfagia orofaríngea leve apenas para líquidos, sendo a evolução da terapia constatada por meio da ingestão oral do paciente, a qual evoluiu da FOIS 1 para FOIS 3 e atualmente encontra-se na FOIS 6. A realização da terapia nutricional enteral possibilitou que o paciente recuperasse o seu peso usual, no período de três meses, haja vista que com a cirurgia, o mesmo perdeu 11 Kg. Verificou-se que por meio do acompanhamento multiprofissional, foi possível evoluir de uma nutrição enteral exclusiva para dieta por via oral, o que favoreceu a evolução do estado nutricional, com a recuperação do peso corpóreo, além de proporcionar melhora na qualidade de vida deste sujeito.

DESCRITORES: Transtornos da Deglutição; Perda de Peso; Laringectomia; Nutrição Enteral; Equipe de Assistência ao Paciente; Reabilitação

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