THE NEED OF SPEECH EVALUATION IN PROTOCOL'S PATIENTS THAT ARE CANDIDATES FOR BARIATRIC SURGERY

A necessidade da avaliação fonoaudiológica no protocolo de pacientes candidatos à cirurgia bariátrica

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ABSTRACT

The purpose of this study is to analyze the actual need of speech therapy intervention through assessment, records and therapeutic sessions in the pre and post-surgery of the bariatric surgery candidate. This study, a cross-sectional one, describes the records, assessment and speech therapy sessions from a male patient, age 36, 51 BMI, presenting comorbidities, submitted to FobiCapella bariatric surgery. According to a pre-planned protocol, the patient underwent a three month of pre and post-surgery clinical assessment of the stomatognathic system, which was recorded through photos of the dynamic structures, orofacial system film, orofacial measurements and palpation of the masticatory muscles and temporalis. After the first evaluation, the patient received prescribed instructions on chewing and oromiofunctional exercises. The comparative analysis of pre and post-surgery assessments showed improvement in the general aspects of the stomatognathic system structures and on their functions such as chewing and breathing, however, because of some functional limitations, continuous speech therapy was made necessary to a maximum adjustment and balance. It is concluded, that the speech therapy documentation on the evaluation protocol of the bariatric surgery candidate, asserts for a specific and scientific speech therapy intervention, supporting the patient with a satisfactory oral adjustment to his new functional and morphological needs.

KEYWORDS: Mastication; Obesity, Morbid; Bariatric Surgery

INTRODUCTION

Obesity is considered a chronic disease by the World Health Organization (WHO), where the same was estimates for 2015, a world population of 2.3 billion people overweight and 700 million obese. According to the WHO ranking, Brazil occupies the 77th position, with 30 % of the population are overweight[1,2]. According to the Brazilian Society of Metabolic and Bariatric Surgery (SBCBM) 30 million Brazilians are obese and 95 million overweight[3].

With projections of an increasing, obesity, whose etiology is multifactorial[4], many individuals may be associated with one or more comorbidities such as type 2 diabetes (T2DM), gallbladder disease, pancreatitis, nonalcoholic fatty liver disease (NAFLD), cardiovascular disease (CVD), hypertension (HBP), osteoarthritis (OA), metabolic syndrome (MS), respiratory diseases such as sleep apnea, psychiatric disorders, neoplasms, and other dyslipidemias. Considering the nutritional classification in BMI (Body Mass Index) of WHO SBCBM considers BMI and mortality risk associated as follows: less than 18.5 underweight, between 18.6 and 24.9 standard; overweight or pre-obese (overweight) between 25 and 29.9, increased risk, 30 and 34.9 obesity class I, moderate risk 35 to 39.9 obesity class II, serious risk, greater than 40 class III obesity, very serious risk [5-7].

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Among the treatments for weight loss, diet restrictive as to the amount and type of food, the use of drugs and physical exercise are the most practiced with or without professional guidance. However, there is a considerable number of cases in which these traditional treatments and/or clinical trials are ineffective in losing or maintaining weight, intensifying the feeling of guilt, discomfort and prejudice, further compromising the quality of life of obese. In this scenario the option for bariatric surgery becomes plausible [5,6,8,9]. Whatever the choice of anti-obesity treatment is, the patient has to be monitored by a multidisciplinary and interdisciplinary team. If surgical treatment is elected, monitoring should be extended to the long-term post-operative, since the maintenance of weight loss depends on changes in the patients' behavior and eating habits[10].

The speech therapy on multidisciplinary Bariatric surgery is still little explored. The postoperative complications were the major leverage for the growth in the area of speech-language studies. Since many complaints such as gagging, vomiting and bloating, stemmed from swallowing changes and digestive malfunction caused by chewing. The evidence of the changes that occur in the patients` life after bariatric surgery, including food[8], leads to the need of pre -surgical speech therapy contribution, always seeking a better quality of life for these individuals. These patients will need an adaptation to this new way of eating food, they will have to pay attention to the masticatory mechanics` peculiarities, involving the participation of all the articulators.

Among the functions of the stomatognathic system, chewing is considered the gold basis, having good breathing as a facilitating pre-requisite[11] and itself being a good facilitator of swallowing. Such importance is given by the fact that it contributes to the prevention of disorders miofunctional stimulating the orofacial muscles and promoting healthy development of the jaw bones, maintenance of arches, stability of occlusion and ultimately muscular balance and functional. Its main function is the fragmentation of food into smaller and smaller pieces, preparing it for swallowing and digestion[12]. For this to efficiently happen requires the integrity of the structures involved, as well as a functional harmony between them, including good posture of the head sustained by the muscles of the neck with the accessory nerve and cervical nerves C2 - C5[13,14].

The speech therapy in bariatric surgical team consists of pre-operatively and post-operatively evaluation and monitoring. Whereas the pre-operative preparation of the candidate for bariatric surgery is of great importance, it is necessary to submit the patient to a reeducation chewing. However, to perform such optimally function or close to default viewed as normal the anatomical structures presented need to be without functional impairment. Structures such as lips, cheeks, hard and soft palate, tongue frenulum of língua[15] and teeth are evaluated by a speech therapist, and this will check the possibilities of this individual to perform a satisfactory chewing and swallowing. Therefore, the objective of this study is to analyze the actual need of speech therapy through assessment / documentation and therapeutic sessions, in pre-and post-operative bariatric surgical patient.

CASE PRESENTATION

This study was approved without risk by the Ethics Research Center of Expertise in Speech Clinic - CEFAC (CAAE: 05604712.2.0000.5538) with Term of Consent under No 032 / 12.

This paper, a cross study case, describes the documented speech therapy evaluation through photos and footage (been this documentation the differential of this evaluation) from a male patient, who underwent to a bariatric surgery through Fobi Capella technique (gastric By-pass in Y the Roux when performed with containment ring) that was performed after the same had been assessed and monitored by a multidisciplinary and interdisciplinary team, composed of the digestive surgeon, clinical gastroenterologist, nutritionist, psychologist, physiotherapist and speech therapist; still further assessments of other medical related, endocrinology, cardiology, pulmonology and otolaryngology. The patient, aged 36 years and 10 months, 51 BMI (height 1.68 m and weight: 144kg) and comorbidities such as hypertension, diabetes, dyslipidemia, intense snoring and apnea severe; been referred by the surgeon of the digestive tract to an assessment and speech therapy that took place in two stages, the first in the preoperative and second postoperative for 3 months.

Initially, the patient, with other candidates for bariatric surgery, received enlightening instructions of the speech therapy work by the bariatric surgical team. In a second step, the patient had been subjected to a clinical evaluation of language structures and functions of the stomatognathic system documented through photographs and footage, following a protocol (Figure 1) to amend a previously developed Figure 1, this procedure was repeated after 3 months post-operatively.

The evaluation of pre-operative and post-operative was performed in an environment with l yellow light, green background, swivel chair for sitting position of the patient, respecting the distance of 1 meter between the patient and the camera, the photos and footage were made using a camera Canon prosumer digital positioned on a tripod, was used further procedure gloves, disposable wooden spatulas and Glatzel mirror to assess nasal airflow.

The evidence of chewing, swallowing and speech, were filmed. For chewing and swallowing solids and liquids, the patient received a cheese bread (pao-de-queijo) and a disposable cup with water. The patient was requested to bite, chew and swallow portions as he was used to, until he finished

Name : Telephone :
Examination Date : D.N :
Referred by: Specialty:
Made By: Accompanied by
Health insurance ( ) : Private ( ) :

Static structures
Dentition Type : deciduous ( ) mixed ( ) Permanent ( )
Number of Teeth: Upper - Lower -
Absence Dental :
Class (Angle) : I ( ) II ( ) III ( )
Bite Type :
Overjet : Overbite :
Dental Midline : Symmetric ( ) Asymmetric ( )
Facial Type : brachyfacial ( ) MesioFacial ( ) dolichofacial ( )
Orthodontic Appliance : No ( ) Yes ( ) What ? How long ?
Notes :

Dynamic structures
• Lips
Morphology :
Superior: suitable ( ) thin ( ) Bulky ( ) Shortened ( )
ICS Copper : 1/3 ( ) 2/3 ( ) More than 2/3( ) doesn`t cover ( )
Lower: suitable( ) thin ( ) Bulky ( ) Eversion ( ) Inversion ( )
Presence of saliva ( )
NOTE: resected ( ) Cracks ( ) Thrush ( ) Sores at the corners ( )
Muscle Tension :
Superior -appropriate ( ) Flaccid ( ) rigid ( )
Bottom - appropriate ( ) Flaccid ( ) rigid ( )
Generalized tremble ( )
Frenulum :
SL : Suitable ( ) Changed ( ) frenectomy ( )
IL : Suitable ( ) Changed ( ) frenectomy ( )
Usual position : Closed ( ) parted ( ) Opened ( )
Closed with mentual tension ( ) constant mentual tension ( ) ICS on LI ( )
Mobility:
Normal ( ) changed ( ) Trembled ( ) uncoordinated ( ) Pain ( )
- Vibration: Normal ( ) Difficulty( ) can`t do it ( ) asy. mov. Mand.__ / __ ( ) Poor ( )
- Protrusion : Normal ( ) Difficulty( ) can`t do it ( ) Asy. mov. Mand.__ / __ ( ) Poor ( )
- Lateralization : Normal ( ) Difficulty Side _ / _ ( ) can`t do it ( ) Asy. Mov. Mand.__ / __ ( )
- Snap : Normal ( ) Difficulty ( ) Can`t do it ( ) Asy. Mov. Mand.__ / __ ( ) weak ( )
- Kiss: Normal ( ) Difficulty( ) can`t do it ( ) Asy. Monv. Mand.__ / __ ( ) Poor ( )

Commissure Symmetry : Symmetric ( ) Asymmetric ( ) Lower in the ____side ( )

Smile Symmetry : Symmetrical ( ) Asymmetrical ( ) commissure Lower in the____side ( )
teeth more evident on the_____side ( )

• Tongue
morphology :
Normal ( ) Extended ( ) Voluminous ( ) Furrowed ( ) Teeth Marks on the Edges ( )
Geographic( ) Macroglóssica ( ) Thin ( ) Diverted to__ ( )
Muscle Tension :
Proper ( ) Flaccid ( ) Note :
Frenulum :
Suitable ( ) Changed ( ) Functional( ) frenectomy ( ) When ?
Mobility:
Normal ( ) changed ( ) Trembled ( ) uncoordinated ( ) Dyspraxia ( )
- Snap : Normal ( ) Difficulty ( ) Can`t do it ( ) Asy. Mov. Mand. / __ ( ) weak ( )
- Vibration:
Normal ( ) Difficulty( ) can`t do it ( ) Asy. Mov. mand_ / _ ( ) Diverted to __ ( )
- Protrusion :
Normal ( ) Difficulty( ) Can`t do it ( ) Asy. Mov. Mand.__ / __ ( ) Diverted to __ ( )
- Elevation:
Normal ( ) Difficulty( ) Can`t do it ( ) Asy. Mov.Mand__ / __ ( ) Diverted / __ ( )
- Downgrade :
Normal ( ) Difficulty ( ) Can`t do it ( ) Asy. Mov.Mand__ / __ ( ) Diverted / __ ( )
- Coupling :
Normal ( ) Difficulty( ) Can`t do it( ) Asy. Mov. Mand__ / __ ( ) Diverted / __ ( )
Usual position :
Papilla ( ) Against Arcade : Inf ( ) Sup ( ) Between Arcade ( )
Buccal floor ( ) Automation ( ) On Inferior lip ( )

• Cheeks
Symmetric ( ) Highest side__ ( ) Tougher side__ ( )
Teeth marks ( ) More Voluminous on the ___ side ( ) Inflates More on the____side ( )
-Mobility: Good Mobility ( ) modified mobility side __ / __ ( ) Airflow Control ( )

• Measures
Normal : _____mm
Tip of the Tongue Behind SIC : ____mm
Tongue`s Frenulum : ___ %
Tongue Coupled on the Palate : ____mm
Filter Naso - Labial : ____mm
opening Mouth with Mand. deviation to ___ .
Closing mouth with Mand. deviation to ___ .

• Soft Palate
Veil Palatine : Normal mobility ( ) Changed Mobility ( )
Uvula : Normal ( ) Diverted / __ ( ) Bífida__ ( ) long ( ) Short ( )
Palatine Tonsils : Absent ( ) Present ( ) Infected ( ) Hypertrophic ( ) Surgeries ( )

Orofacial functions

• Breath
Mode : Nasal ( ) Oral ( ) oronasal ( ) Predominance ( )
Airflow : Bilateral ( ) Unilateral__ ( ) Absent ( ) Low ( ) Flow Increased on ___ side ( )
Rhythm: Normal ( ) Fast ( ) Slow ( ) Silent ( ) Noisy ( )
Nostrils : Symmetric ( ) Higher Side ( ) Presence of Secretion ( ) Naso -labial angulation( )

• **Chewing**

Food Used :

Bite of food :

With Anterior Teeth ( ) with Lateral Teeth ___ ( ) can`t do it ( ) Pain ( )

Lips` posture:

closed ( ) parted ( ) closed w / Atypical chin muscle pressure ( )

Open ( ) closed w / Atypical Lip pressure( )

Standard :

Bilateral w / alternation ( ) Rotated ( ) anterior ( ) Unilateral__ ( )

Bilateral Simultaneus ( ) Vertical ( ) posteriorized ( ) Predominance__ ( )

-Masticatory Force : Normal ( ) strong ( ) weak ( )

-Rhythm: Normal ( ) Slow ( ) Fast ( )

Sufficiency masticatory ( ) failure Masticatory ( )

-Bolus :

formation ( ) Difficulty formation ( ) without formation ( ) Centralization : yes ( ) no ( )

Note: Knead the food with tongue ( ) Noisy ( ) chewing accompanied by Liquids ( )

• Swallowing

Features	Solid	Liquids
Normal	( )	( )
Language Among Arcades	( )	( ) Previous ( )Side : R( ) L( )
Language Against Arcades	( )	( ) Previous ( ) Side : R ( )L ( )
Language w / Low tIp	( )	( )
Perioral Mime	( )	( )
Superior Arcade on Lat Inf.	( )	( )
Head tilted	( )	( )
Food Remains` presence	( )	( )
Gagging	( )	( )
Accompanied with liquid	( )	( )

Notes:

• Speech

- lisp : frontal( ) Lateral ( ) on the emission of the phonemes [s] ( ), [z]( )
- Escape: frontal ( ) lateral ( ) in the Phonemes [ƃ] ( ), [3] ( )
- Tongue Protrusion: front ( ) lateral ( ) in the pronunciation of [t]( ), [d]( ) [l]( ), [n]( ), c(l)v( ), c(r)v( )

Escape: Frontal( ) lateral ( ) in affricates [tƃ] ( ) , [d3] ( )

Jaw deviation: R ( ) Phonemes_____ L ( ) Phonemes_____

Jaw protrusion: ( ) Phonemes_____

Pronunciation of Low -tipped tongue ( ) Phonemes_____

Speed: Standard ( ) Slow ( ) Quick ( )

Omission ( ) Phonemes : _____

Distortion ( ) Phonemes : _____

Accumulation of saliva : _____

NOTE: [s] _____ [z] _____ [t] _____ [d] _____ [n] _____ [l] _____Bi

• Hard Palate

Normal ( ) High ( ) atretic ( ) Ogival ( ) Deep ( ) Expansion ( ) _____

Masticatory muscles :

Masseter - R + Bulky ( ) L + Bulky ( ) Balanced ( ) reduced force ( )

Temporal - R + Bulky ( ) L + Bulky ( ) Balanced ( ) reduced force( )

• Head Posture

Normal ( ) Leaning to __ ( ) Projected to __ ( ) Rotated to __ ( ) Hyperextension ( )

• Body Posture

Shoulder : Symmetric ( ) higher___ ( ) lower___ ( )

Notes:

Figure 1 - Orofacial Motricity Assessment Protocol

the whole cheese-bread. The Speech therapist had requested the patient to open his mouth twice, before swallowing, so that the bolus could be seen and analyzed for its formation by the evaluator; It was said that he could use water when thought necessary, observing thus if a need of liquid supporting during chewing was necessary.

The dynamic structures such as the lips, cheeks, palate, were photographed by asking patients to make some praxis according to the protocol attached. To assess mobility of the soft palate patient should pronounce with his mouth wide open /a/ /ã/. The Measures were made with the sterilized plastic Caliper within the standards of the Sanitary surveillance, filter were naso -labial (vertically); natural opening of the mouth and opening the mouth with the tongue behind the upper central incisors to assess lingual frenulum. It was also performed the masticatory muscles (masseter and temporal) palpation. Static structures like teeth and hard palate, and the posture of the head and shoulders, were photographed.

After the documented evaluation, in individual sessions, the patient received guidance in how to better chewing, he had been stimulated to experience different food consistencies and different types of grains, fibrous, dry, humid, among others, noting especially the most consistent and resistant to chewing strokes, such as beef. Speech therapies held in the office worked the chewing using French bread, banana and cereal bar. The therapist explained the importance of adapting the best possible chewing to prevent digestive disorders such as gagging, heartburn, bloating and vomiting. For that, the speech therapist clarified the relevance of putting smaller amounts of food in the mouth, watching the rise of the bolus then mixing saliva with it, and feel it with the tongue before swallowing to make sure it is the best possible.

As for fluid intake , was explained to the patient the care he should have with the volume to be taken[16], especially in the early post-operative days in which he should use a small glass of 50ml, placing in the mouth little sips that should be savored before swallowed. Thus, avoiding a quickly intake and an intake in large volumes, possible causes of pains and vomiting. The diet of liquid, after surgery, following the nutricional guidance, happens every two hours, maintaining the ingestion of small amounts of liquid every fifteen minutes.

Considering the data obtained in the documented evaluation and the patient's complaint of *"not being able to sleep well because of snoring and apnea",* the speech therapy extended to myotherapy orofacial with isometric exercises[17], that happened in three series of thirty minutes with intervals of three days between the first and the second session, and four days between the second and third session. It should be performed at least a series of eight to ten replicates twice a day. The muscles emphasized were the orbicularis oris, buccinator, suprahyoid, extrinsic tongue, and the masseter and temporalis were stimulated by chewing exercise with food. The awareness and practice of proper chewing, associated with these exercises aimed an improvement in harmony and balance in the orofacial muscles and functions of the stomatognathic system.

From the date of the surgery, the patient's nutritional diet evolved as follow: initially, liquid for twenty days, progressing and staying pasty until the thirtieth day of the surgery, when he started with solid foods, where food was more baked and moistened, after the sixty day of the surgery, the patient developed an unrestricted solid diet free of consistencies, including raw salads and roasted meats. Thirty days after surgery, the patient returned for a speech therapy group session, and at this time was offered a slice of whole wheat bread with light cream cheese and 125 ml industrial light juice, the patient should eat and drink watching the guidelines for mastication and swallowing received pre-operatively. During these sessions the patient, with the others, received guidance to the solid diet I, emphasizing foods like beef and rice, recalling to be careful when chewing, even wet food; so to be entering into a solid diet, but more humid.

Three months after the surgery the documented speech therapy evaluation was repeated according to the same standards established preoperatively. During the interview, the patient reported a significant improvement of respiratory function: *"I finally slept a full night and I practically don`t snore anymore. I can follow the diet prescribed by the dietitian smoothly, I can even eat meat. I am very happy. I still do the exercises when I remember, I have done it a lot ".*

RESULTS

In pre-operative evaluation the diagnostic of the speech therapist was a myofunctional disorder with the commitment of the stomathognatic system. It was observed the posture of the head that was tilt to the left in hyperextension, and his shoulders was with the right side higher than the left; the hard palate was presented ogival deep; He has class I occlusion according to Angle classification[18], the soft palate was with lowered mobility, the hard palate presented ogival deep, uvula as the standard and tonsils were present; the force of the masseter was in balance and temporal force was reduced. As for the other dynamic structures, details below in Figure 2.

Dynamic structures	Lips	Tongue	Cheeks
Morphology	-upper- appropriate, covering the upper incisors in more than two thirds -lower- appropriate	enlarged and bulky	
Muscle tension	-upper and lower flabby	flaccid	flaccid
Mobility	- adequate, but with some jaw`s movements associated in some praxis requested	Altered, with difficult keeping his tongue engaged in the hard palate, snap with little efficiency, presence of associated jaw movements in some praxis requested	good mobility with aerial flow control
Usual Posture	- parted- and when united presents a good lip closur without mentual`s muscle tension	against and between the arches	
Symmetry	- Lip commissure on the right Higher than the left, asymmetry. -smile- right side lower, asymmetry		asymmetry, with right cheek higher
Frenulum	- top and bottom with long insertion	normal functional	

Figure 2 - Dynamic Structures` analysis - Lips, Tongue and Cheek

During swallowing, it is suggested that the tongue stays between / from the anteriorly arcades and on the sides, for both solids and liquids. Observed the presence of food debris and perioral mimic. In the speech evaluation was observed the exhaust of the previous phonemes [s] and [z] [ɓ] and [ʒ]; previous protrusion of the tongue at the time of the pronunciation of [t], [d], [l], [n] , c(l)v e c(r)v; and deviation of the jaw to the right in spontaneous speech.

A comparative analysis of pre-and post - surgical indicated improvement in the general aspects of the stomatognathic system structures and their functions, however, persisting some changes that need speech therapy for its complete adequation and balance. Among the functions subjected to evaluation tests the speech and swallowing (Figure 3 and 4) showed no improvement, except for the fact that during swallowing in post -surgery there was no presence of food debris . However, what strikes us most is the improvement of breathing and chewing (Figure 5), as well as the intraoral space (Figure 6). This last one, with a better view of the soft palate, uvula and fauce; improvement in the morphology of the tongue (Figure 7) and lips (Figure 8); increasing measures, improving mouth opening (Figure 9); temporal that was with reduced strength, now it is in equilibrium. The Mastication was evaluated post-operatively, and it was observed that the previous bite of the food remains, but much smaller; presents standard with rotational movements, more controlled speed of the mastication, cake formation is adequate; the support with liquid during chewing did not happen anymore and during the whole process no wheezing happened.

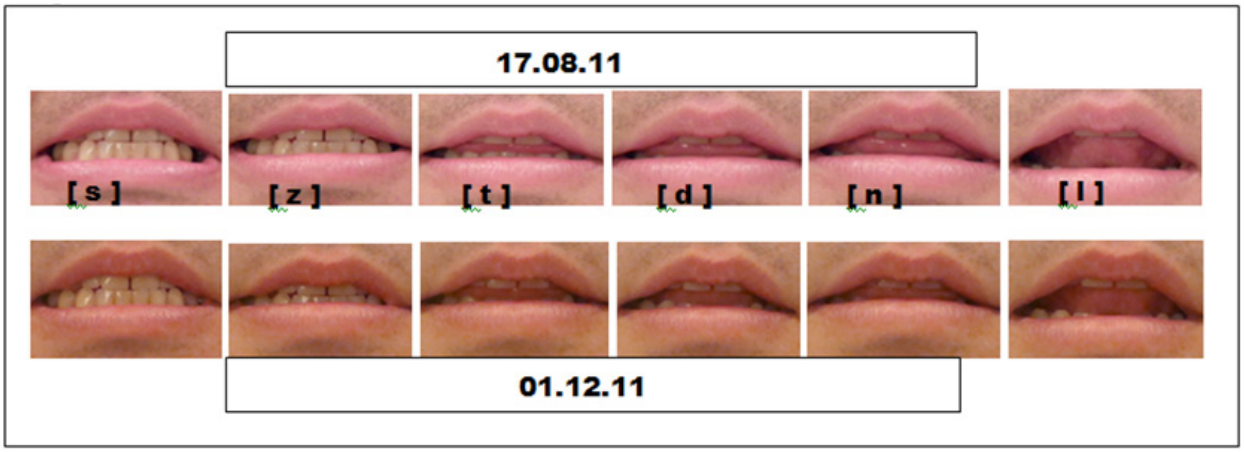

Figure 3 - Speech`s analysis

Figure 4 - Swallowing analysis

Breathing	Pre-operative	3 months pos-operative
Mode	Oronasal (mixed).	Oronasal, with improved nasal use
Aerial flow	Bilateral.	Bilateral.
The nostril	asymmetric	asymmetric
Chew		
Food's bite	With anterior teeth	With anterior teeth
Lips' posture	closed	closed
Pattern	. Bilateral, alternating, sometimes roundabout, sometimes vertical; posterior; chewing predominant on the right side	. Bilateral alternating, now shows rotational movements; posterior; chewing predominant the right side
Masticatory force	Normal	Normal
Rhythm	Fast, with insufficient mastication.	More controlled speed, with improvement in masticatory sufficiency.
Bolus	Difficulty formation.	Adequately Formation
Notes	supported chewing with liquid.. During the process presented wheezing	Did not supported chewing with liquid . During the process showed improvement in breathing breathing.

Figure 5 - Breath and chewing's analysis

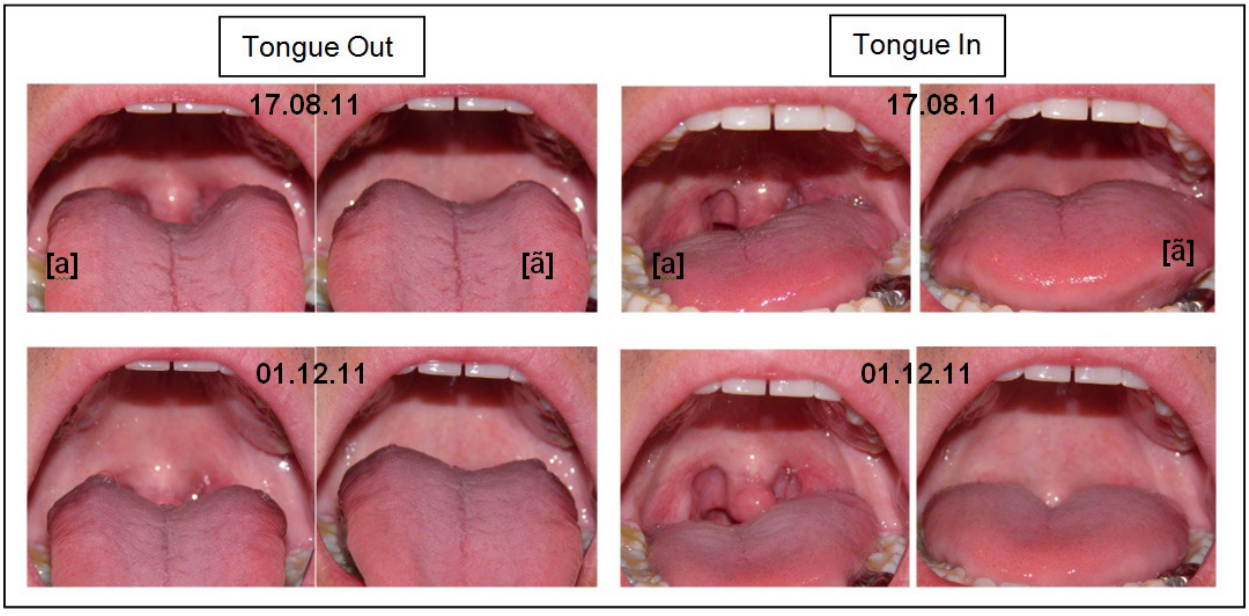

Figure 6 - Intraoral space`s analysis

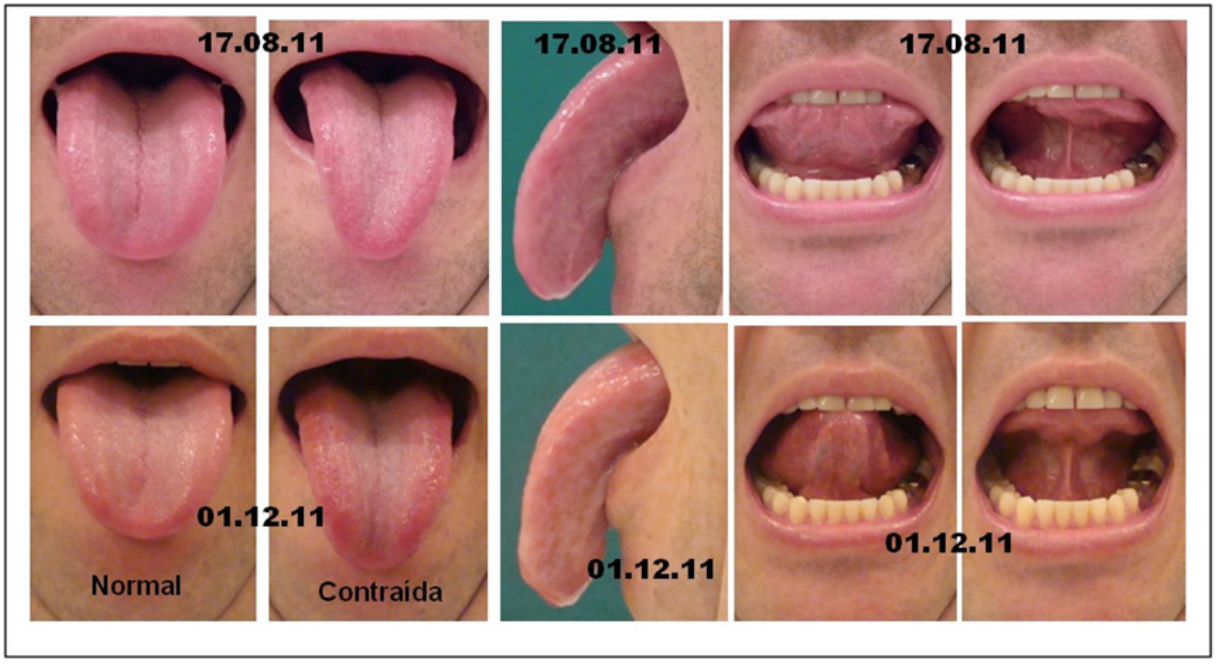

Figure 7 - Tongue`s morphology analysis

Figure 8 - Lips` morphology analysis

Measures	Pre-operative	3 months pos-operative
Interincisal mouth opening	52 mm	54 mm
Tongue's tip behind the incisors	40 mm	41 mm
Lingual frenulum	76% - adequado	75% - adequado
Tongue engaged in the hard palate	24 mm	29 mm
NasoLabial filter	20 mm	21 mm

Figure 9 - Caliper measures

DISCUSSION

The technique of Gastric By-pass Roux-Y is the most accomplished in the world due to its effectiveness for weight loss and the control of major comorbidities associated with obesity, when performed with containment ring is denominated Forbi- Capella. This occurs because of the early satiety feeling, by inadequate absorption of nutrients, the rapid transit of the food to the small distal intestine and contribute to the reduction of orexigenic hormones such as ghrelin and increased PYY and GLP- 1[19,20]. The evaluation of the individual of the changes after surgery is essential, since it is essential that the patient fully understands the possible risks of the surgery, the post- surgical discomfort, and the need for a multidisciplinary approach in the pre and long term post-operative[5,9,21].

The multidisciplinary care aimed to minimizing the later impact later and avoid potential complications, such as Eating Disorder - Anorexia and Bulimia nervosa, commonly associated with a disturbance of body image, since the patient's emotional commitment will have a direct impact on their adaptation post-operative making it difficult to assimilate and appropriate practice guidelines received by professionals, including speech therapy. Hence the need for multidisciplinary monitoring pre-and post- operative bariatric surgery, since it is not uncommon to find this investigative process the relationship between obesity and changes as depression, anxiety, panic, or evidence of impulsive behaviors compulsives[10,22]. This demonstrates how to change eating behavior suffers interference diverse as emotional, unhealthy habits and misinformation, including compromising your chewing ability.

The participation of the speech Therapist in the bariatric surgical team has long been ignored even by the speech therapists. However, in recent years with the emergence of studies that demonstrate the importance of this activity, both in reducing and maintaining weight[23], the speech therapist work has been recognized and respected. There are still many issues that need to be researched and published by speech therapists, but with the evidence already found it becomes easier the emergence of more research in the field .

This tireless search for knowledge, emphasize the importance of understanding the digestive process. Paying attention to the fact that this is a different phenomenon from the absorptive process. However, both have an inter-relationship and they happen almost simultaneously. It can be said that there is an interdependence since if there is a changing in a process, the other also will present changed. It is not for this paper to describe these processes in detail, but the overall understanding of them will help to show how much speech therapy with the satisfactory masticatory function benefit the individual in question .

Literature has few references about obese chewing. However, it is observed that among these, the chewing pattern of the morbidly obese is described mostly as very fast, prioritizing vertical movements, size of the bolus shown great and sometimes the lack of mastication[24]. Such characteristics potentially impair chewing food adaptation in patients undergoing bariatric surgery, providing the gagging, bloating, and vomiting entalos.

Before chewing occurs, there is the feeling of hunger associated with the desire to eat something, leading to a affectivity selection of food related to personal taste sensation, family customs and cultural aspects. The feeling of fullness occurs according to indexes digestive, metabolic and endocrine modulators of the nervous function of the hypothalamus, which will limit the intake of more food[25]. Thus, it is necessary to guide the surgical candidate to his new pattern of chewing, explaining that it is not enough to only "chew slowly", it is necessary the complete degradation of the food in the mouth in order to promote the entire digestive process, helping, even, increasing the speed of passage of food by the digestive compartments without damaging los[24].

Considering the data already presented in results, it is observed that to occur an adequate adaptation of the changing in diets is necessary a masticatory rehabilitation, respecting the organic characteristics of the patient. In the present etude, the patient progressed satisfactorily mastication, reaching the main goal for his adaptation post-operative, relearning how to chew.

It is evident that the documented Speech therapy evaluation is recommended and of great importance in clinical speech therapy assessment, to provide a specific speech behavior to each patient, since each person has their peculiarities relating to their morphological and functional aspects, and these in turn require a scientific look, insightful and objective. Throughout the work, it is possible to realize the need to review some evaluation methods, such as the masseter and temporal muscles, because the contraction of them depends directly on the dental occlusion, thus making palpation somewhat subjective; the use of plastic caliper for not being recommended for scientific research, and the another aspect would be swallowing because open the patient's mouth during the act of swallowing movement can foster a note of it erroneous, being antifisiológico[26,27].

It is noted that the awareness of this patient, as well as a well-oriented training were facilitated by the documentation[28], since the patient can contemplate his performance and structures. Although there is still an indication for speech therapy, the patient has not returned to the sessions, saying that he was pleased that he is “eating and not vomiting or chocking”. The challenge in working with such patients leads us to reflect on how the speech therapy can contribute to the well-being of the patient, but how much still has to tread the path of knowledge, seeking answers through studies grounded in science.

CONCLUSION

The speech therapy in patients who are candidates for bariatric surgery offers, preventive, avoiding post-operative complications such as choking, bloating, and vomiting, heartburn. However, another focus would be therapeutic, acting on changes detected in the pre, likely persist, and pos-operatively. However, for this conduct to meet the real needs of this patient is required a careful documented Speech therapy evaluation, following specific guidelines and respect standards of normality. It is hoped that with the best fit of the structures and functions changed, this patient get the long awaited quality of life.

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RESUMO

O objetivo deste estudo é analisar a real necessidade da intervenção fonoaudiológica por meio de avaliação/documentação e sessões terapêuticas, no pré e pós-operatório de paciente candidato à cirurgia bariátrica. Este trabalho, um relato de caso transversal, descreve a documentação/avaliação e acompanhamento fonoaudiológico de um paciente do sexo masculino, 36 anos, 51 de IMC, apresentando comorbidades; submetido à cirurgia bariátrica pela técnica Fobi Capella. O mesmo, seguindo um protocolo previamente elaborado, foi submetido a uma avaliação fonoaudiológica do Sistema Estomatognático no pré e pós operatório de três meses, documentada por meio de fotos das estruturas dinâmicas, filmagens do sistema orofacial, medidas orofaciais e palpação dos músculos mastigatórios masseter e temporal. Após a primeira avaliação, recebeu orientações quanto à mastigação e exercícios oromiofuncionais. A análise comparativa das avaliações pré e pós-cirúrgicas indicaram melhora nos aspectos gerais das estruturas do Sistema Estomatognático e suas respectivas funções como de mastigação e respiração, persistindo algumas alterações que necessitam de acompanhamento fonoaudiológico para sua completa adequação e equilíbrio. Conclui-se que a documentação fonoaudiológica no protocolo de avaliação do candidato à cirurgia bariátrica, corrobora para uma atuação fonoaudiológica específica e científica, favorecendo ao paciente uma adaptação funcional oral satisfatória às suas novas características orgânicas (morfológicas e funcionais).

DESCRITORES: Mastigação; Obesidade Mórbida; Cirurgia Bariátrica

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