INVESTIGATION ON THE COMPLAINT OF DYSPHAGIA IN APHASIC PATIENTS

Investigação da queixa de disfagia em pacientes afásicos

Karin Zazo Ortiz[1], Milena Ribeiro Marinelli[2]

ABSTRACT

Purposes: to assess the presence and evolution of swallowing complaints in post-stroke aphasic patients and, based on reports by family members on symptom improvements, to determine the influence of aphasia on the prognosis of dysphagia. **Methods:** 30 post-stroke aphasic patients at the chronic phase were interviewed and, together with family members, answered a questionnaire on the presence and persistence of post-stroke swallowing complaints and related aspects, including improvements in dysphagia and aphasia. Kaplan-Meier curves of dysphagia complainers and non-complainers were compared to verify the influence of swallowing complaints on the prognosis of aphasia. **Results:** 48% of patients reported swallowing problems after the stroke. Out of them, 93% showed positive changes (partial or total resolution of dysphagia symptoms). The average time for patient improvement (spontaneous or otherwise) was 76 days. 60% of the subjects reported total resolution of dysphagia symptoms, 47% of underwent speech therapy. Regarding aphasia, 87% of patients reported some improvement, although no patient reported full resolution of the symptoms. A total of 57% had undergone speech therapy to treat aphasia. The average time reported for positive change in patients was 183 days. No significant difference in aphasia improvement was observed between dysphagia complainers and non-complainers. **Conclusions:** out of the aphasic patients assessed in this study, 48% reported swallowing complaints. Based on reports by family members, aphasia had no impact on the prognosis of dysphagia.

KEYWORDS: Swallowing Disorders; Aphasia; Rehabilitation; Stroke; Swallowing; Language

INTRODUCTION

Cerebral vascular accidents (CVAs), or strokes, comprise the vascular disorders in which a brain area is affected in transitory or permanent way[1] .

The CVA is between the three main death causes in most of the developed and in development countries[1,2]. It can also cause global motor sequel, language modifications (aphasia), speech (apraxia and dysarthria) and in the swallowing dynamic (dysphasia).

The frequency of aphasics between patients that suffer of CVA is from 21% to 38% [3]. There is an association between the aphasic patients post-CVA and the high level of mortality[4,5].

Some studies suggest that demographic factors such as gender and age, influence in the occurrence, severity and frequency of aphasia[6], while other studies do not confirm these findings[7].

The aphasia can be defined as a neurological language disorder, being several etiologies, among them the CVA[8]. In the same way, neurological diseases are the common causes of dysphasia[9] and CVAs can represent more than 50% of this alteration cause[8].

The dysphasia can be, in some cases, periodrary and the patient can receive a oral diet normally again. However, this disorder can also offer risks of dehydration, nutritional deficiencies and pulmonary complications. In neurogenic dysphasias, it is important to detect the aspiration risk in the patients

(1) Speech Language Pathology Departament of Universidade Federal de São Paulo, São Paulo, SP, Brazil.

(2) Universidade Federal de São Paulo, São Paulo, SP, Brazil.

Research developed at Núcleo de Investigação Fonoaudiológica em Neuropsicolinguistica of Universidade Federal de São Paulo, São Paulo, Brasil
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just after the CVA during the acute phase, in order to prevent pulmonary complications and allow suitable therapeutic interventions[10].

Many patients that experienced CVA do not report dysphasia complaint, but they can show difficulty to swallow. This difficulty can be masked with adaptation and compensations performed by them[11].

In neurological cases, sometimes, the dysphasia is associated to language disorders such as the aphasia. The cognitive and communicative capacities preservation of the patient comprises one of the indicators to classify the patient in the independence scale related to functional swallowing. The state of consciousness fluctuation or cognitive functions can make the learning impossible disfavouring the swallowing[12,13].

Thus, considering that possible alterations that can occur after cerebral injury, the present study aimed at verifying the presence and perception of the swallowing complaint evolution in aphasic patients post- CVA. The following specific objectives were linked:

To compare the average time of the dysphasia betterment perception and the aphasia perceived and reported by the family in aphasic patients post-CVA;

To analyze, from the relatives report regarding the manifestations betterment, if the aphasia occurrence interferes in the dysphasia prognosis.

METHODS

The present study was performed at the Speech Therapy and Neurolinguistic Investigation Unit of the Department of Speech Therapy, Universidade Federal de São Paulo - Escola Paulista de Medicina (Unifesp-EPM).

To collect data, aphasic patients that presented as etiological cause a single CVA in the left hemisphere were selected, i.e., without other aphasia-caused etiologias, as brain injury or dementias, that looked spontaneously for assistance in the ambulatory of Acquired Neurogenic Disorders, totaling 30 post CVA aphasic patients. There was no exclusion of patients related to the CVA occurrence time criteria, but all patients must be in the chronic phase of the disease when interviewed. Patients must have language complaints to participate of the research.

All individuals selected to participate of the study, were invited to participate and signed the consent form free and cleared. These patients with their relatives answered a questionnaire about the current or previous swallowing complaints, done by speech pathologist formally orally and individually. The questionnaires were applied as priority with the injured-brain patient. Only in the situations in which the patient showed compreenhension and/or emission deficiencies that unabled the interview with the same, the interview was performed with the relative. The presence of the relative at the interview moment aimed that all data collected would be confirmed. In all interviews, even when the patient answered to the questions, the relative was present to endure data reliability. The data related to the CVA history was removed from the patients evaluation protocols and noted down in a record sheet.

This record sheet was composed aiming to obtain the patient information, such as: personal data, CVA occurrence date, aphasia type, being this latter obtained by means of speech pathologist evaluations followed from the respective diagnostics.

Regarding the questionnaire (Figure 1), it was elaborated from the manifestations already described in patients that experienced post CVA swallowing complaints.[11]

It contains questions that aimed to identify how the swallowing complaint associated to the aphasia occurred.

The questions contained in this questionnaire covered the following aspects: swallowing difficulty before and after CVA, with which consistency(Y) has more difficulty if there was a need of phono-audiological intervention, if there was a communication betterment and/or dysphasia and betterment average time with or without specific phonoaudiological intervention for such disorders. During the interview, the patient was asked if he had presented, in any moment post-CVA, difficulty to swallow or related complaints (coughing, choking, etc.) . When the answer was yes, further questions were followed, if these complaints (reported) improved, and if so, it was asked how was the betterment, in order to confirm that the change reported by family/patient would be a partial or total sign of betterment of the manifestation. In this study, we use the term “betterment” for all changes reported by patients/relatives and identified by the speech therapist through the report as positive, even if they have been partial.

This study was approved by the Institution’s Ethics Committee of the Institution under CEP # 2041/08.

After obtaining and analyzing the questionnaire answers, it was performed the statistics analysis. Survival curves for aphasia and dysphasia betterment data were generated from the Kaplan-Meier method.

Evaluation Date: __/__/__

1) Identification
Name: _____ Age: _____
Gender: ( ) F ( ) M Date of birth: __/__/__
Address: _____
Phone: _____ Responsible person: _____

2) Past history of complaint:

_____
_____

3) Additional information
3.1. Hospitalizations
Local:_____Entry date: __/__/__
U.T.I.: ( ) yes ( )no Period: _____
Coma: ( ) yes ( ) no Period: _____
Ward: ( ) yes ( ) no Period: _____
3.2. Data about the CVA
CVA type: CVAI ( ) CVAH ( )
Main causes: _____
3.3. Notes
Current follow-up:
( ) neurologist ( ) Physiotherapist ( ) speech therapists ( ) others _____
_____
Exams performed: _____
Surgery: ( ) yes ( ) no Which: _____
_____
3.4. Aphasia
Broca ( ) Conduction ( ) Transcortical Motor ( ) Wernicke ( ) Transcortical Sensory ( ) Anomic ( ) Mixed ( ) Global ( )

Notes: _____

Evaluation date: __/__/__

1) Identification
Name: _____ Age: _____
Gender: F ( ) M ( ) DATE OF BIRTH: __/__/__

2) Questionnaire
I – Had some difficulty in swallowing before the CVA?
yes ( ) no ( ). Which type of food? _____
II – After the CVA, had any swallowing problem?
yes ( ) no ( ).
With which consistency? _____
Did get better? yes ( ) no ( ). How long after this? _____
Did have speech/language intervention? yes ( ) no ( )
How long? _____. For dysphasia? yes ( ) no ( )
III – Had aspiration pneumonia? yes ( ) no ( ).
How many times? _____
Tracheostomy: yes ( ) no ( )
How long? _____
Used: intubation ( ) mechanical ventilation( ) O2 nebulization ( )
IV – Use of probe: yes ( ) no ( )
SNE ( ) SNG ( ) SOG ( )
How long? _____
V – Gastronomy: ( ) yes ( ) no
VI – Ingests smoothly? yes (Y) no (N)
solid ( ) pasty ( ) liquid ( )
VII – Made or makes compensations to swallow? yes ( ) no ( )
Which? _____
VIII – Was there a communication betterment? total ( ) partial ( )
How long? _____

Figure 1: Record sheet

Comparisons of survival curves were performed by the log-rank test. Comparisons of survival curves were performed by the log-rank test and all tests pre-conditions were verified. The probability (p) smaller than 0.05 was considered to indicate statistical significance, all tests were two-tailed and all analyze was calculated using the statistical package SPSS (Statistical Package for the Social Sciences) 13.0 for Windows.

RESULTS

General characteristics

The patients age ranged from 57,8 ± 13,7. The younger patient was 21 years and the older was 81 years.

A total of 30 were assessed, being that 50 of 3 % from the patients were man.

Aphasia types were represented in the Table 1.

Table 1 – Frequency of aphasia types

Diagnostic	N	Frequency (%)
Mixed	7	23,3
Conductive	5	16,7
Amnesia	5	16,7
Broca	4	13,3
Transcortical sensory	4	13,3
Transcortical motor	2	6,7
Global	1	3,3
Subcortical	1	3,3
Transcortical mixed	1	3,3

Betterment analysis reported of the aphasia regarding the time

Eighty-seven percent of the patients reported betterment of aphasia, although none of them reached the complete betterment. The minimum time that the patient could present any betterment reported by the family was 15 days. Patients median that improved was equal to 183 days.

The Figure 2 represents the Kaplan-Meier curve for the aphasia betterment.

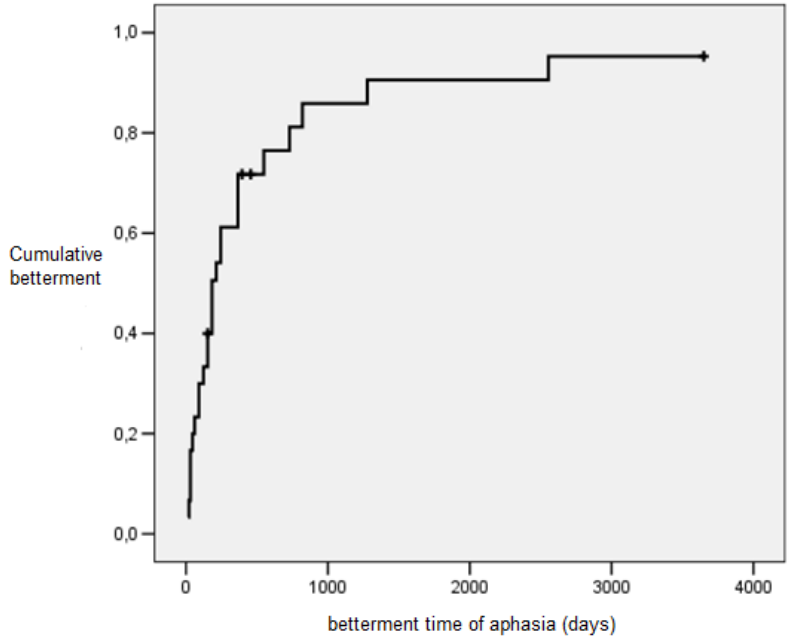

Figure 2 - Kaplan-Meier curve for aphasia betterment data

From the total of patients, 57% were submitted to speech therapy for aphasia.

Analyzing the Kaplan-Meier curves from the patients who were submitted to speech therapy with those who were not, there was no significant difference in the betterment between the two groups (94% vs. 78% of betterment, X2 (1) = 2.03, p = 0.155).

Betterment analysis of the dysphasia regarding the time

The dysphasia complaint was reported in 48% of the patients. From those, 93% reported betterment of dysphasia. The minimum time such that the patient report any kind of betterment was seven days, after the resumption of the consciousness level, post-CVA. The patients median who reported betterment was equal to 76 days. Among those with dysphasia, 43% reported they used the probe during hospitalization. The usage time of the probe ranged from 5 to 122 days (median = 22).

The Figure 3 presents the Kaplan-Meier curve for dysphasia betterment.

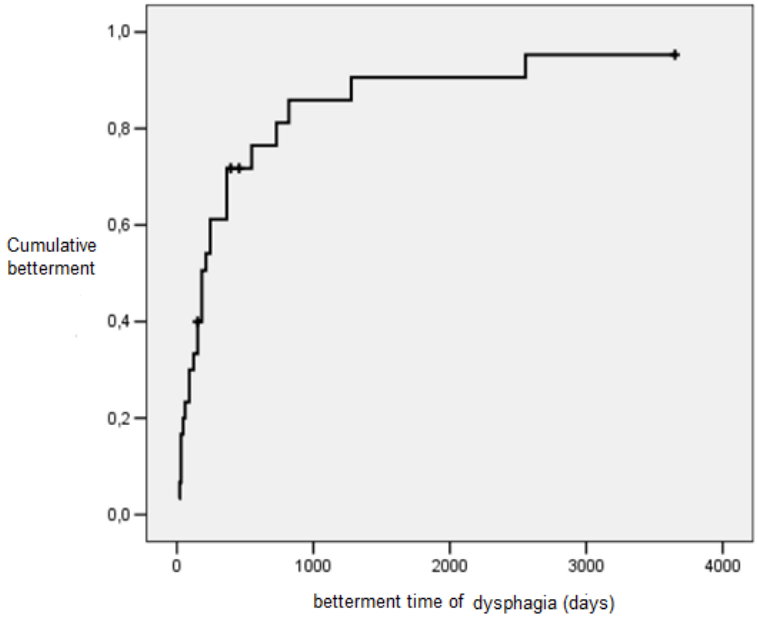

Figure 3 - Kaplan-Meier curve for dysphasia betterment data

From the total with dysphasia, 60% reported overall betterment of dysphasia and 47% reported being treated for dysphasia. For the Kaplan-Meier curves of patients who were submitted to speech therapy with those who were not, there was no significant difference in the betterment mentioned by both groups (100% vs 87% of betterment, X2 (1) = 0.67, p = 0.411).

Analysis regarding the consistencies of food

Patients who complained of the dysphasia, 11 (73.33%) reported difficulties with the solid consistency of foods, 11 (73.33%) with liquid and 7 (46.66%) with pasty, and from these, 4 (26.66%) complained with all kinds of consistency.

Five (5) patients complained of one of the consistencies, 3 (three) of them reported difficulties with liquid and two (2) with solid, six (6) patients showed difficulties with two consistencies, and three (3) had problems with liquid and solid, two (2) with pasty and solid and one (1) with liquid and pasty.

None of the patients reported complaints of dysphasia prior to CVA.

Relations between entre aphasia and dysphasia

To verify that the dysphasia seems to have interfered in the aphasia prognosis, we compared the Kaplan-Meier curves of the patients who complained of dysphasia with those who did not report. There was no significant difference in the betterment of aphasia between the two groups (93% vs. 81% of betterment, X2 (1) = 2.14, p = 0.143).

To verify that the betterment of aphasia affected the prognosis of the patients with dysphasia, compared the Kaplan-Meier curves of the patients reporting aphasia with those did not reported. Similarly, there was no significant difference in

the betterment of said dysphasia between the two groups (93% vs. 100% betterment, X2 (1) = 0.04, p = 0.848).

DISCUSSION

Initially, regarding the characterization of the sample, it can be note that the average age of studied subjects was 57.8 years with a standard deviation of 13.7 years considered low compared to the age with the CVA highest prevalence in the population. According to the literature, more than half of the CVA cases occurs in people over 70 years[14]. It has been noted, however, that although the CVAs occur predominantly in older individuals, it can often affect younger people[5]. In this study, the average age of patients assessed corroborates with the fact that the CVA is affecting younger populations in recent years.

Fifty-three percent of the patients assessed in this research were male gender. Indeed, there seems to be a predilection for male gender (1.3:1) [1].

Regarding aphasia betterment, 87% of the patients reported some type of aphasia evolution, being that none of them reported overall betterment of the condition. From 30 patients assessed, 57% were submitted to speech therapy and from these, 94% outlined a condition betterment and, from those that did not receive speech therapy, 78% showed some betterment. It is important to note that this study was performed in a public healthcare ambulatory. The cases of aphasic patients exposed to speech therapy relate to the ones who had a place in the outpatient care service. In turn, the cases that did not performed therapy, did not do it because there was no place available for the patient. Still, the assiduity and frequency of the treatment were non-controlled variables in this study. The betterment noted in the cases exposed to the speech therapy can be justified by the possible spontaneous recovery occurrence, linked to the guidelines performed to the aphasic patient family at the end of the evaluation. The concept of spontaneous recovery, although much discussed and revised is accepted, because sych recovery was verified in many patients that did not have any therapeutic stimulation and in the same way had a betterment. This type of recovery is assigned to the compensatory functioning of certain areas in the brain or other factors not determined yet[16]. In this way, the partial change of the language condition reported by the patients or their relatives must have occurred due to spontaneous functional recovery in the acute phase of the disease. There was a percentage of patients reporting betterment of the aphasia condition against therapy and in some patients who were not exposed to the speech therapy. There were also patients (3.3%) that even with therapy did not outlined a betterment regarding the aphasia. However, as noted in Table 1, regarding the sample general characteristics, it appears that the majority of aphasic patients interviewed in this study, showed severe aphasias (N=19, 63.4%) which allows us to hypothesize that would have, related to the prognosis, a little chance of total spontaneous betterment of the condition, i.e. without speech therapy.

The median time that patients reported changes in the aphasic condition was 183 days (6 months). Comparing the patients who made speech therapy with those who did not, from the Kaplan- Meier curves there was no significant difference in the betterment of these cases. Despite a significant difference between the betterment of language disorder in aphasic patients exposed, or not, to the speech therapy, it is emphasized again that the sample in this study was very heterogeneous regarding to type of aphasia presented by patients. Mild cases usually have better chances of spontaneous betterment[17] which makes the ideal comparison between the treated group and non-treated group impossible, since the aphasia severity was not controlled in this comparison. Likewise, it was not possible to control what each family considered a betterment or not of the patient during the interview, which gives subjectivity to this analysis. And finally, this research was not this study object of this research and it was performed only to compare the evolution of aphasia and dysphasia reported and observed by patients. In future researches, these variables, if of interest, can be objectively controlled.

At the beginning, regarding the sample, it can be seen that 48% complained of dysphasia. It is known that from the post-CVA patients, 25-50% complained of dysphasia[18], and some authors even suggest higher probabilities occurrence[8]. Specific studies about the epidemiology aspects and natural history of dysphasia associated with acute brain-vascular conditions suggest an incidence of around 50% for swallowing disorders[19,20]. It is noted, however, that despite these studies agree in numbers with the current, they are all different when it comes to analysis, because they assessed only patients with dysphasia after have suffered CVA regardless the occurrence or not of other disorders unlike from this study that had as sample selection criteria the co-occurrence of aphasia. This suggests that the risk of post CVA patients with dysphasia is independent or associated with the occurrence of the disorder language (aphasia), since the percentage described in the literature remained in the sample analyzed in aphasic patients in this study. In a study that resembled this as the case basis[11] it was found

that 54.54% of the patients with dysphasia post-CVA were associated with aphasia, given that resembles to th noted in the present study.

From patients who complained of dysphasia, 93% reported some betterment and 60% from them reported an overall betterment. Many authors consider that dysphasia betterment spontaneously and the frequency of chronic cases is small[21,22].

In relation to dysphasia, the median time that patients show a betterment was 76 days, after CVA. Remembering that, from the total with dysphasia, 47% were submitted to therapy and, when comparing patients who have speech therapy with those did not, it was noted that there was no significant difference in the betterment between the two groups. There was 100% of betterment for patients who have speech therapy for dysphasia and 87% of betterment in patients who did not have the therapy. In a study that aimed to determine the incidence and prognosis of dysphasia in patients with CVA, it was noted that in 88% of the cases they were feeding orally without complications due to spontaneous betterment in the four months after CVA[22].

In general, the literature indicates that patients may have one to four months to occur spontaneously betterment of dysphasia[23, 24]. In the present study, it was noted that patients took more than two months to present dysphasia betterment. Furthermore, it is emphasized again that this sample is different from the other analyzed in further studies, once patients were also aphasic and due to linguistic-cognitive changes associated to the condition, may have shown the motor rehabilitation process of dysphasia slightly delayed, because the difficulty to compensate functionally the deficits and understand the instructions and guidelines given by the therapists.

Among those with dysphasia, 43% needed to use probe during the hospitalization for an average time of 22 days. In a British research[25] performed in the periods between 1996 and 1999, we estimated a value around 1.7% of all patiensts who suffered from CVA and needed to receive food via probe. It was also found that these patients, after one year from CVA, 13% of them had already returned to oral feeding. In the present study, the recovery was faster, because patients returned to feed orally at an average time of 22 days. The amount higher of those who needed to use the probe as an alternative supply, maybe is due to the fact that patients were aphasic and needed greater preventive care by limiting communication. In turn, the lowest time for patients return to feed orally , may be due to greater assistance given or by the fact that, when presented betterment, even partial, of language disorder, and answered to dysphasia stimulation, swallowing changes have been noted with fast recovery, which seems to agree with what the literature suggests[25] .

Although the initial objective was to verify the possible interference of aphasia in the dysphasia recovery, it was also found that dysphasia interferes with aphasia rehabilitation. This last analysis was also made, since it is known that the higher the degree of functional dependency in patients, i.e., the greater the number of limitations, including the dysphasia, the greater the risk of depression[26] that can interfere with the aphasia recovery. When patients who complain of dysphasia were compared with those who did not, in order to verify if the dysphasia interfered with the aphasia recovery, it was noted that there was no interference of this aspect in the aphasia rehabilitation. The same was found when comparing if the betterment of aphasia affected the prognosis of dysphasia. However, researches controlling aphasia severity, and interference in the rehabilitation of dysphasia still need to be performed. Likewise, it would be required if studies could also control dysphasia severity.

Regarding the partial spontaneous betterment between aphasia and dysphasia, has a value of 78% of the betterment reported for the communication condition and 87% for swallowing. Although the difference was small, this was expected because the recovery of the aphasia is slower, and also in relation to dysphasia, the incidence of spontaneous betterment is greater than 22. In the previous study, it was noted that patients experiencing dysphasia, whether presented aphasia or not, were those who presented the worst prognosis for hospital discharge.[27]

Study Limitations and Future Perspectives

This is a pilot study which analyzed the presence and evolution of the dysphasia complaint reported by aphasic relatives. A methodological limitation was the study being performed only with investigating complaints of dysphasia in chronic aphasic patients. There may have been false positives (patients who reported swallowing complaints of post-CVA) and false negatives (patients without swallowing complaints, but they might have some change), despite the risk of complaint has been overestimated or the problems have not been realized. Moreover, due to greater concern with dysphasia conditions, many services have proposed screening exclusively using questionnaires[28,29], different professionals training[30], and special attention to dysphasia patients with or without aphasia[27,31]. Future new researches should be conducted in larger populations to verify whether the co-occurrence of these disorders - evaluated in objective - interfere in the specific prognosis of each.

CONCLUSIONS

From the aphasic patients assessed in this study, 48% showed dysphasia compliant.

The average time of the betterment reported for the dysphasia was 76 days and the average time of aphasia betterment reported by the family was 183 days.

From this information obtained from the relatives, positive correlations were not found, i.e., the presence of aphasia does not seem to have affected the dysphasia prognosis.

RESUMO

Objetivos: verificar a presença e evolução da queixa de deglutição em pacientes afásicos pós- AVE e, a partir do relato dos familiares em relação à melhora das manifestações, analisar se a ocorrência da afasia interferiu no prognóstico da disfagia. **Métodos:** 30 pacientes afásicos pós-AVE na fase crônica foram entrevistados e, juntamente com seus familiares, responderam a um questionário sobre a presença e a permanência de queixas de deglutição pós-AVE e aspectos relacionados, bem como melhoras ocorridas em relação aos quadros de disfagia e afasia. Para verificar se a disfagia parece ter interferido no prognóstico da afasia, comparou-se as curvas de Kaplan-Meier dos pacientes que referiram queixas de disfagia com os que não referiram. **Resultados:** 48% dos pacientes tiveram queixas de dificuldades de deglutição pós-AVE. Destes, 93% apresentaram mudanças positivas (melhora parcial ou total do quadro). O tempo médio para que o paciente apresentasse qualquer tipo de mudança (espontânea ou não) foi de 76 dias. 60% referiu melhora total da disfagia, sendo que 47% foram submetidos à terapia fonoaudiológica. Em relação à afasia, 87% dos pacientes referiram melhora, apesar de nenhum paciente ter referido melhora total. 57% haviam sido expostos à terapia fonoaudiológica para a afasia. O tempo médio referido para que o paciente apresentasse qualquer tipo de mudança positiva nas manifestações foi de 183 dias. Não houve diferença significante na melhora da afasia entre o grupo com e sem queixa de deglutição. **Conclusões:** dos pacientes afásicos avaliados neste estudo, 48% apresentou queixa de disfagia. Verificou-se, a partir do relato dos familiares, que a ocorrência da afasia parece não ter interferido no prognóstico da disfagia.

DESCRITORES: Transtornos da Deglutição; Afasia; Reabilitação; Acidente Cerebral Vascular; Deglutição; Linguagem

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Mailing address:
Karin Zazo Ortiz
Rua Botucatu, 802 – Vila Clementino
São Paulo – Brasil
CEP: 04023-900
E-mail: karinortiz.fono@epm.br