

SPEECH THERAPY EFFECTIVENESS IN A CASE OF EXPRESSIVE APHASIA RESULTING FROM STROKE

Eficácia da fonoterapia em um caso de afasia expressiva decorrente de acidente vascular encefálico

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ABSTRACT

The purpose of this article was doing a report case of an aphasic client subjected to speech therapy in the clinic of a Speech Pathology and Audiology course of a federal university. The studied subject is a male patient, aged 68, treated in the clinic since May 2009. His therapeutic process was analyzed up to December 2010. The client suffered an ischemic stroke in the left cerebral hemisphere, on January 2009, when suddenly presented mutism. After the evaluations, the therapist concluded that the client presented "aphasia, compromising the oral and the writing expression, caused by ischemic stroke". So, the treatment plan was created. Since the start of therapy, significant linguistic changes could be observed in the client. A primary factor for the satisfactory recover was the quick search for the speech treatment (15 days after the stroke), because there is a degree of spontaneous recovery in aphasic clients. But, the good results are minimal without the adequate therapy. Only one month after the beginning of the therapy, the client improved substantially his vocabulary. Despite the injury area is extensive and fundamental to the language, it was observed very positive results with the therapy. So, we believe that the early speech therapy contributed a lot to the linguistic recover, since the client communicate satisfactorily, if we consider the great extension of his injury.

KEYWORDS: Speech Therapy; Rehabilitation; Aphasia; Language; Speech, Language and Hearing Sciences

■ INTRODUCTION

Aphasia is traditionally defined as an acquired disorder of language caused by lesions or brain dysfunction, which can be associated or not with other cognitive impairments, interfering in the ability of processing and / or language productions. That is one of the most common neurological damage after focal acquired lesion in the central nervous system,

in the areas that are responsible for understandable and / or expression, oral and / or written language^{1,2}.

In aphasia, all the aspects of language that were mentioned before are affected, however, that does not indicate a disease but rather a multimodal neurophysiologic disorder that is manifested by difficulties in reading, speaking and / or even writing together with changes in terms of behavior, intellectual and emotional spheres, attitudes and personality³. Aphasic individuals can present since a slight language change, such as anomia (difficulty of evoking or emitting names) to more severe changes, like losing the ability of emitting any linguistic signal⁴.

The impairment caused by aphasia varies depending on the location and extent of the lesion. The higher the affected brain region is, the greater is the risk of sequelae. In relation to the location, one author states that 95% of right handed and 75% of the left handed individuals specialize the left hemisphere (LH) for language, being that, then,

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the dominant hemisphere for the development and use of language skills³. The lesions in regions that are located before the left cerebral hemisphere typically damage the verbal production, while lesions in posterior regions of the same hemisphere will probably damage the verbal understanding⁴.

The brain lesions that originate aphasia can be caused by both exogenous factors to the subject, such as head trauma or infectious diseases, as well as by endogenous factors to the body of the subject, such as Cerebral Vascular Accident (CVA) or tumors, for example¹. The CVA is the most common cause of aphasia in adults, besides it is a big public health problem because of its consequences, which generate the need for diagnostic and therapeutic resources^{5,6}.

In addition to specific disorders and the ones related to the language, there are other factors that intensify the aphasia in the patient, like his emotional state, memory difficulties, medication use, diversion of attention, the presence of states of agitation and depression, nutritional status and his general health state^{3,7}.

From the knowledge on issues related to aphasia, a speech-language intervention is aimed at recovering of communication with patients, considering their limits, their physical and mental condition. The rehabilitation of the aphasic patient by means of speech therapy must be scientific, human, systematic and plastic, including the human being in its entirety¹.

Based on that, the aim of this case study was to report and analyze the case of an under treatment aphasic patient in the speech therapy school clinic of a federal educational institution. The report case is justified by the linguistic recovery, which was considered very favorable to the patient in relation to the extent of the suffered brain lesion.

■ CASE PRESENTATION

This report is characterized by being observational and exploratory. The patient information was obtained by consulting the handbooks of the clinic school of the Speech Therapy Major of a Federal University, where data were collected regarding to the anamneses, to the speech and hearing assessments and complementary ones (neurological, audiological and psychological assessments), to the diagnostic hypothesis and the therapeutic process.

The studied individual is a male patient, 68 years old, who was having treatment at the clinic school since May 2009, being that his therapeutic process was analyzed until December 2010. In order to preserve the identity of the patient, during the work, it was awarded the initial D. to identify him.

Considering his clinical history, the patient suffered an ischemic stroke in the left hemisphere in January 2009, at night, after working during the day. D. was resting when, suddenly, he presented deviation in his mouth to the left side, and he also lost the movements in the right side of the body, besides present a case of mutism. As a result, he was interned for three days, staying with paralysis in all the right side of the body, besides presenting oral expressive language impairment. The patient worked as a farmer until the date he was affected by the CVA. D. resided with his wife, his caregiver.

The patient had hypertension for more than 10 years, he used to smoke and he also used to make use of alcoholic beverages. In addition to speech therapy, he used to attend physical therapy sessions and he also had cardiology care, making use of continuous medication for heart and hypertension. He started speech therapy in private practice about 15 days after hospital discharge.

In terms of evolution, the patient reported to feel better the moment he left the hospital. The motor recovery was fast, although he remained with some difficulties. The recovery of speech happened in a gradual way, especially in the first months after the CVA. He started with the production of few words and it progressively increased to the production of simple sentences. Before starting the therapy in the clinic school, he could communicate with some effectiveness, but he had many episodes of anomia and phonemic changes.

When the patient started the treatment at the school clinic, the following speech therapy evaluations were made: Assessment of Aphasia - ABBR (Brazilian Beneficent Association for Rehabilitation) and assessment of the Aphasic Language Comprehension (Token Test). Other assessments were taken: audiological, neurological, brain CT scan and ultrasound of the vertebral arteries, subclavian arteries and carotid arteries.

The research was approved by the Ethics Committee of the Federal University of Santa Maria according to the number 123/03.

■ RESULTS

In the evaluation of Aphasia - ABBR, in terms of spontaneous speech, it was observed a difficulty and articulatory imprecision and in the automatic series, the patient could not say the alphabet and even the months of the year. In the aspect of understanding and activities of the body schema, he did not presented difficulties, performing, satisfactorily, all the required tasks. With regard to oral reading, the patient was able to read, understand and interpret texts. He presented some difficulty in naming the

figures. In writing, he had motor difficulty because he is right-handed, and the CVA compromised his right side. However, he wrote the words and phrases that were requested, with only a few changes and omissions of letters, which he could correct by having a second reading. He obtained success in the gnosis assessment and also in the case of the verbal praxis, D. had difficulty in repeating some syllables, words and phrases. On the other hand, he did not present any difficulty in nonverbal praxis, simple orders and simulated actions. It is emphasized that during all stages of evaluation, the patient had no difficulty in understanding the language.

In Assessment of Language Comprehension in Aphasic (Token Test) D. presented a score correspondent to a mild impairment degree.

The result of the audiological evaluation showed hearing thresholds within normal limits at a loss in high frequencies.

In Neurological Assessment, it was found that the patient presented sequelae of ischemic CVA that is manifested by mild sensory-motor hemiparesis on the right, besides presenting a predominantly expressive aphasia.

In the skull tomography, taken in January 2009, the slices show mild diffuse enlargement of liquoric spaces consistent with the reduced volume in the brain and brain parenchyma with attenuation coefficient of normal, without signs of hydrocephalus. However, it is important to mention that in acute ischemia could not be detected by computed tomography. In March of that year, another tomography was performed, showing parenchymal hypodensity affecting gray and white matter in the left temporoparietal region.

After the evaluations, it was diagnosed "aphasia of expression, oral and written due to an ischemic CVA."

Then, according to that diagnosis, a therapeutic planning was elaborated, which aimed to suit the expressive language, oral and written, providing guidance to the patient and family about aphasia, and engage them in speech therapy process. For that reason, some therapy strategies were used such as: facilitation, evocation and articulation, with the help of music and topics of interest to D, which are contextualized to his daily activities. In writing, it was used the news and lyrics genres to work written production with the patient.

Since the beginning of the therapy, it was observed linguistic changes in the patient D. communicates in a satisfactory way considering his lesion, however, he reported that he would like to improve even more. He was a very diligent and collaborative patient. At the end of 2010, his condition remained the same. It is noteworthy that the patient remained

in speech therapy because of his need of interaction with others, once he presented the argument of "not having anyone to talk." Thus, D. started to join a group of aphasic mediated by a speech therapist, in which they could interact and exchange experiences among themselves.

■ DISCUSSION

According to the data of the initial interview conducted with the patient and his wife, the causative agent of aphasia was the CVA. The case of D. is a kind of stroke classified as anoxic-ischemic of the left cerebral hemisphere, manifested in an abruptly way with right hemiparesis and mutism condition. The immediate damage of language is explained by a lesion, once the left hemisphere is dominant for the performance of language skills³.

In relation to the established speech and hearing diagnosis hypothesis for the patient, it was used the dichotomy of "expressive aphasia" versus "receptive aphasia"⁸. This classification, although not well describing the particularities of each case, is useful in clinical speech because it is functional, once it presents the two most noticeable disorders in terms of interaction. The main symptom presented by D. was the difficulty of expression, i.e., his non-fluent emission. On the other hand, the understanding - another important clinical aspect to be taken into consideration for diagnosis - was considerate good according to the results in the Token Test, which showed a mild degree of impairment. In addition, it is possible to ensure that understanding is adequate through the observation of the therapist in other assessments and therapy sessions. Thus, because the understanding is almost completely preserved, it was used the term "aphasia of expression."

The patient presented a condition of mutism soon after the CVA, the first symptom characteristic of acquired language disorder. Shortly after the CVA, when he began the speech therapy, the patient communicated basically by word / all /, as a verbal stereotypy, which also features the expressive damage.

In about a month of speech therapy, D. greatly expanded his vocabulary, but with many paraphasias and neologisms. Furthermore, he could communicate in a telegraph way and he was recovering his fluency gradually. In this case, it was observed two types of paraphasias: semantic paraphasias and phonetic paraphasias¹. Both the paraphasias were observed in spontaneous speech and in naming words. Besides these anomalies aphasic, there is also the presence of oral stereotypy, as mentioned before, and perseveration.

In terms of reading, the patient performed it, but in a slow way, making some mistakes that suggest paraphasia. On the hand, writing was slightly affected due to right hemiparesis, because the patient is right handed. D. wrote the requested words, with some changes and omissions of letters, perceived by the patient and corrected with the help of the therapist. These data confirm the fact of being included the written damage in the diagnostic hypothesis.

Furthermore, in this case, some characteristics of dyspraxia in the speech of the patient were observed, which can also be associated with aphasia. This speech disorder is defined as a communication disorder described as a difficulty in positioning and having sequence of the speech organs for a phonemic production. The patient "knows" the word being spoken, but cannot sequence it in the motor act. This is a sensorimotor disorder in the ability to select, program and / or execute the production of sounds in a voluntary way⁹.

In the case of D. the repetition it was reasonable, therefore, he was able to repeat short words and presented difficulties in emitting long words and not so frequent in the language, which could be indicative of verbal dyspraxia.

However, it is not possible to state with certainty the existence of an associated dyspraxia, once the diagnosis of dyspraxia, dysarthria and aphasia is very similar and all diseases can have the same cause. Diagnosis is even harder in severe neurological cases, when there is an absence of speech¹⁰.

Rehabilitation

There is a degree of spontaneous recovery in aphasic patients¹¹, being that faster in the first three months, making it slower after the six months. But the improvements are minimal without proper treatment¹². Initial improvement is largely due to neurophysiologic processes, mainly with the performance of the right hemisphere¹³. The strategies of exposure to language and practices developed by the patient are responsible for much of the late recovery⁸. In this case, the patient mentioned that he was progressively recovering speech, particularly one month after the CVA.

The speech treatment consisted of assessments and therapy. The assessment tried to identify the symptoms of languages presented in D. and aspects of quality of life for a diagnosis, and therapy aimed to help in the overcoming of the communication difficulties, making it functional¹⁴.

Among the objectives, the therapy aimed to keep the patient orally active, to manage strategies to improve language and also to guide the family to communicate with the patient, providing the necessary psychological support⁸. It was given attention

to the fact that the rehabilitation of aphasic adults it is necessary to consider the need to adapt to the capabilities and personality of patients¹⁵.

The therapeutic measures should begin early, in order to avoid further failures in the organization of neural circuits¹⁵. Patient D. looked for speech therapy 15 days after CVA, which was probably very important for his successful recovery.

The involved variants in the recovery of aphasia should be considered, ranging from clinical aspects to psychosocial ones¹⁶. Those interact with the cognitive, emotional, having a high influence on the rehabilitation.

The extent of the lesion seems to be the most negatively item in the prognosis of recovery from aphasia³. In this case, the patient had a lesion classified as large, affecting the left temporoparietal region. However, he presented a very positive recovery in terms of the extent of his lesion.

Another important factor is the etiology of the brain lesion, being that pathologies such as intracranial tumors and CVA have a worse prognosis because of sudden onset events deprive the adjacent regions of innervations coming from the area of the lesion⁸. The last one is the case of patient D, who has undergone ischemic CVA on the left side of the brain, thus, it would be expected to be a less favorable prognosis than the one presented by the patient.

Some emotional characteristics should also be considered in the rehabilitation of aphasia, including loneliness and isolation due to fear of rejection. Loneliness restricts the situations in which the patient could improve the level of language¹⁴. And also, keeping the stimulation is a basic principle in recovery of any function⁸. It was noticed loneliness and lack of stimulation in D, in moments when he was home, because he mentioned not having someone to talk to. Then, that is the reason of the importance of the patient attending the group of aphasic patients, referred in the report case, once there is the possibility of being inserted in communicative events through speech and hearing clinical practice¹⁷. In addition, groups can contest loneliness and isolation, reduce the time hours of the caregivers, and improve the quality of life of aphasic through socialization, mentioned characteristics in the literature for the treatment of these patients¹⁴.

The family is also an important since the beginning of the rupture of the communication process, and throughout the recovery. The loss of ability to speak affects the relations between the spouses. These couples have interpersonal communication problems¹⁵. It was possible to notice that the wife of D. had no patience with him, and there was no dialogue between the couple.

Patients without family support tend to physical deterioration and emotional and they do not take advantage of the reeducation¹⁵. D. also presents depression. Therefore, it would be essential that the family remain engaged in the therapeutic process, knowing and adhering to treatment for a better prognosis of the case.

■ CONCLUSIONS

Patient D. presented aphasia resulting from a CVA. From the analysis of the case and its relation to literature, it was found that the area of the lesion was extensive, and it is fundamental to the language, which could compromise in many ways

his language skills. However, very positive developments were observed with the therapy. The early language intervention contributed a lot to the reorganization of linguistic activity and it is still bringing considerable progress to the condition of the patient.

Although the prognosis of D. is favorable to the aspects related to language, there still remained issues that need to be deeper studied in order to better understand the therapeutic process, like the relationship of the patient with his family, and the perception of aphasic by family members of D.

Then, it is emphasized the importance of early language intervention in cases of aphasia in order to the patients be able to restore the functionality of communication, as in case that was mentioned.

RESUMO

O objetivo deste estudo de caso foi relatar e analisar o caso de um paciente afásico adulto em tratamento fonoaudiológico na clínica escola do Curso de Fonoaudiologia de uma instituição federal de ensino. O sujeito estudado é um paciente do sexo masculino, com 68 anos de idade, em tratamento na clínica escola desde maio de 2009, sendo que seu processo terapêutico foi analisado até dezembro de 2010. Quanto à história clínica, o paciente sofreu acidente vascular encefálico isquêmico no hemisfério esquerdo, em janeiro de 2009, quando repentinamente apresentou um quadro de mutismo. Após serem realizadas avaliações fonoaudiológicas, concluiu-se que o mesmo apresentava como hipótese diagnóstica "Afasia de expressão, oral e escrita, decorrente de acidente vascular encefálico isquêmico." Diante disto foi elaborado o planejamento terapêutico. Desde o início do processo de terapia foi possível observar evoluções linguísticas no paciente. O fato de o sujeito ter procurado atendimento fonoaudiológico 15 dias após o acometimento pelo acidente vascular encefálico, provavelmente foi um fator fundamental para sua boa recuperação, pois há um grau de recuperação espontânea em pacientes afásicos, porém a melhora é mínima sem o tratamento adequado. Em aproximadamente um mês de terapia fonoaudiológica, o paciente expandiu consideravelmente seu vocabulário. Apesar de a área lesada ser extensa e fundamental para a linguagem, observou-se avanços bastante positivos com a terapia. Deste modo, acredita-se que a intervenção fonoaudiológica precoce contribuiu, em grande parte, para a reorganização da atividade linguística, visto que o paciente comunica-se satisfatoriamente considerando a grande extensão de sua lesão.

DESCRITORES: Fonoaterapia; Reabilitação; Afasia; Linguagem; Fonoaudiologia

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