



# Multidisciplinary care of peripheral facial palsy: clinical case study

## Atendimento multiprofissional da paralisia facial periférica: estudo de caso clínico

## Atención multidisciplinaria de parálisis facial periférico: estudio de caso clínico

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### Abstract

**Background:** To report the effects of a multidisciplinary intervention on functional recovery of patient with peripheral facial paralysis. **Procedures:** Clinical case study, male subject, 45, suffered from peripheral facial paralysis on the left side, grade IV in House-Brackmann scale, characterized by moderate paralysis. The patient was treated by physical therapist, speech therapist, and acupuncturist, which sought the recovery of function of the facial muscles, in addition the reception of psychosocial demands. **Results:** After 05 weeks, the reassessment showed the improvement in facial symmetry, both at rest and in mimes and expressive movements. Initially he had grade IV and after treatment went to grade II of the House-Brackmann scale, which corresponds to mild paresis of the face. **Conclusion:** The study results showed that the plan involving multidisciplinary clinical, physical therapist, speech therapist and acupuncturist demonstrated to be positive, as they encompassed the suffering brought by the patient, both in the functional and the psychosocial aspects.

**Keywords:** facial paralysis; Bell Palsy; patient care team; psychosocial impact; case studies.

### Resumo

**Tema:** Relato dos efeitos de uma intervenção multiprofissional na recuperação funcional de paciente com paralisia facial periférica. **Procedimentos:** Estudo do caso clínico de sujeito do sexo masculino, 45 anos, acometido

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**Conflict of interests:** No

**Authors' contributions:** MFFS - administração do projeto, coleta de dados, metodologia. AFB - metodologia, revisão do projeto, levantamento teórico. MFC - metodologia, revisão do projeto, levantamento teórico. MCC - administração do projeto, análise e revisão do conteúdo.

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**Received:** 06/11/2014; **Accepted:** 01/05/2015



por paralisia facial periférica na hemiface esquerda, grau IV na escala de House-Brackmann, caracterizada por paralisia moderada. Foi realizado tratamento com fisioterapeuta, fonoaudióloga e médico acupunturista, que visou recuperação dos aspectos funcionais da musculatura facial, além do acolhimento das demandas psicossociais. **Resultados:** Após 05 semanas, uma reavaliação foi realizada e evidenciou melhora da simetria facial, tanto no repouso quanto em movimentos mímicos e expressivos. Inicialmente apresentava grau IV e após o tratamento passou para o grau II da escala House-Brackmann, que corresponde a paresia leve da face. **Conclusão:** Os resultados do estudo evidenciaram que o plano clínico multiprofissional envolvendo fisioterapeuta, fonoaudióloga e médico acupunturista demonstrou-se positivo, à medida que englobou as demandas trazidas pelo paciente, tanto no aspecto funcional quanto psicossocial.

**Palavras-chave:** paralisia facial; Paralisia de Bell; equipe de assistência ao paciente; impacto psicossocial; estudos de casos.

## Resumen

**Tema:** Presentación de informes de los efectos de una intervención multidisciplinar en la recuperación funcional de los pacientes con parálisis facial periférica. **Procedimientos:** Estudio de un caso clínico de un sujeto de sexo masculino, de 45 años, sufrió una parálisis facial en la hemiface izquierda de grado IV en la escala House Brackmann, que se caracteriza por parálisis moderada. El tratamiento se llevó a cabo con el fisioterapeuta, fonoaudióloga, acupunturista y médico que buscó la recuperación de la función de los músculos faciales, además de la ayuda en sus necesidades psicossociales. **Resultados:** Después de 05 semanas, una evaluación y mostraron una mejor simetría facial, tanto en reposo como en la mímica y movimientos expresivos. Inicialmente tenía grado IV y después del tratamiento fue a grado II de la escala de House Brackmann, que corresponde a paresia leve de la face. **Conclusión:** Los resultados del estudio mostraron que el plan que implica clínica multidisciplinaria, fisioterapeuta, fonoaudióloga y médico acupunturista mostró ser positivo ya que engloban las demandas interpuestas por los pacientes tanto en el aspecto funcional y psicossocial.

**Palabras clave:** Parálisis facial; Parálisis de Bell; grupo de atención al paciente; impacto psicossocial; estudios de casos.

## Introduction

The face is one of the most important elements of self-concept and expression of emotions. The muscles of this region are characterized for maintaining direct connections with the skin. Its fibers are flat, thin and poorly defined. These particular anatomical characteristics determine the functional peculiarities and the malleability of facial expressions<sup>1-3</sup>.

When the innervations of a muscle in this region is comprised, the muscle fibers degenerate and the muscle atrophies, causing reduction of their normal volume and a significant replacement by fibrous tissue, in long-term<sup>4</sup>.

The deficits in this region can bring significant functional changes, as well as psychological and social consequences, such as decreased self-esteem, anxiety, depression and social isolation<sup>1,5,6</sup>.

One of the possible deficits is the peripheral facial palsy (PFP), and it occurs due to the reduction or interruption of axonal transport to the seventh cranial nerve, what results in partial or complete paralysis of the facial muscles. This occurs often, because the seventh cranial nerve is the most affected of the human body, since it runs through a long way with angles and a narrow bone canal, known as fallopian canal<sup>7,8</sup>.

The difficulties commonly encountered are: decrease of the evidenced muscle tonus, mainly, in facial movements and expression of emotions; difficulties in chewing and oral phase of swallowing functions due to decreased muscle tonus of the orbicularis muscle of the lips and buccinators, which limits the intraoral pressure and favors the escape of food; and speech disorders, specifically in the production of bilabial and labiodental phonemes. Other clinical features, such as hyperacusis, inability to close the eyes (lagophthalmos), reduced

blinking reflex and taste, salivation and tearing disorders and dormancy around the ear are also frequent<sup>9,10</sup>.

The PFP is associated with several factors, among them: congenital, traumatic, neurological, infectious, metabolic, neoplastic, toxic, iatrogenic and idiopathic<sup>11</sup>. It should be noted that idiopathic PFP is recurrent, but in the last decade the viral etiology hypothesis, associated with manifestation of herpes simplex, has excelled in literature<sup>12,13</sup>.

The location of the facial nerve injury, the degree of the PFP and the various etiologic factors involved make the therapeutic plan and the treatment options to be many. This context brings up the debate on the relevance of different professionals in the treatment of PFP; which can work in their specialty or as members of multidisciplinary teams<sup>14,15</sup>.

The multidisciplinary intervention allows the sum of information of different specificities to obtain comprehensive care of the patient. This activity requires experts to share their knowledge to build an effective therapeutic plan, and take into consideration the demands and needs presented by the patient, which is different from a fragmented care in specialties<sup>15</sup>. Therefore, it is suggested that the work in multidisciplinary team leverages the treatment, favoring the evolution of cases<sup>16</sup>.

From these considerations, the aim of this study was to report a case of PFP in which the functional recovery demonstrated the positive effects of the multidisciplinary approach.

### Description of the case

This study was approved by the Ethics Committee under the number: 196.977.

Male patient, 45 years old. He was stricken by PFP on the left facial side and soon he was seen by a neurologist who described the paralysis as level IV.

The clinical evaluation of the neurologist found: level IV in the scale of *House Brackmann*<sup>17</sup>, characterized by moderate paralysis, with muscle weakness, evident sagging, mime incapacity for frontal muscle elevation, incomplete eyelid closure and asymmetric mouth with maximum effort.

The suspicion of PFP caused by herpes simplex 1 (HSV-1) came from the report of previous episodes and clinical examination. Thus, drug treatment was started: acyclovir / 400mg for 5 days, 400mg and prednisone/ 20mg for 7 days.

After a week, physiotherapy and speech therapy service began. Considering this fact, it is thought the possibility of a neuropraxic physio-pathology, characterized by loss of continuity of nerve impulse transmission, usually associated with segmental demyelization. The complete recovery in such cases is satisfactory<sup>18</sup>.

The main complaints were related to difficulties to express his emotions and to speak to a group of people, especially in work meetings. Initially, the apparent facial asymmetry and phonemic distortions made him limit his mime and speech articulation movements, so that, the distortions in the face did not provide any evidence. He feared that if he did many facial movements, it could aggravate the facial asymmetry.

The evaluation of facial function was performed, being observed (while resting) that the left facial side presented discreet eyebrow lowering, more open eye, fallen lower eyelid, partial decrease of the nasolabial folds, sagging cheeks, deviation and depression of the labial commissure. In mime movements, it was observed limitation of mobility and facial expressions<sup>19</sup>.

Regarding speech, the subject often hid his mouth with his hand as he spoke, to hide the facial asymmetry, making it difficult to understand. The evident phonemic distortions occurred in bilabial consonants (/ p / / b / and / m /), with significant deviation to the contralateral side (right) and in the labiodental, with weakness in the production of fricative sounds / f / and / v /.

Regarding feeding, he began to eat more fragmented and slower, but struggled to use the left side, even with the food escape by the labial commissure. When swallowing, it was observed an effort in execution, with a slight elevation movement of the head as rewarding the tonus alteration of the mouth orbicular and buccinators muscles, and food remains that were in the vestibule of the mouth.

### Procedures

The treatment was performed for 05 weeks.

The physiotherapy attendances occurred 03 times a week and consisted of sliding maneuvers towards the muscle fiber across the paralyzed hemiface, associated to kinesiotherapy (exercises in order to facilitate the return of musculoskeletal function<sup>20</sup>) and facial movement exercises.

The therapeutic sessions occurred once a week and discussed the myofunctional rehabilitation, with manual manipulation of the muscles of the face in the direction of insertion of the muscle fibers, associated with myofunctional exercises for induction of the movement and muscle tonus improvement<sup>18,21,22</sup>. The phonemic distortions were treated using the light support resource with the index finger in the region near the left labial commissure, while the emission of syllables and words. Furthermore, it was stimulated to make, even with difficulties, mime/expressive movements of the face and speech articulation.

During the Speech-Language Pathology and Audiology sessions, the patient expressed psychic and social content associated with his clinical condition. The therapeutic listening of this material was part of the process.

After 02 weeks of physiotherapy and Speech-Language Pathology and Audiology attendances, he started acupuncture, once a week, applying needles into acupoints that transmitted stimuli through the skin, creating direct access to the central nervous system. The acupuncture points were selected according to the tongue semiotics, the pulsology, the symptoms and the clinical aspect of the patient<sup>23,24</sup>.

## Results

The multidisciplinary treatment aimed at increasing the nerve excitability, promoting regeneration of nerve fibers, the improvement of muscle contraction, blood flow and tissue nutrition.

After 05 weeks, a reevaluation was performed and it showed improvement in facial symmetry both at rest and in mime and expressive movements. He passed from level IV (moderate) to II (light) of the House-Brackmann scale<sup>17</sup>.

It can also be seen an improvement in speech production (lack of phonemic distortions) and on gripping, chewing and swallowing food.

The therapeutic listening conducted by the speech therapist, was also fundamental to a simultaneous recovery of the psychosocial aspects involved, because it encouraged the patient to deal with these conflicts and to find alternatives to overcome them.

Acupuncture also played an important role in the treatment; it accelerated the recovery of facial movements, acting directly at the points of muscle

tension, making the patient report a feeling of relaxation and tranquility.

## Discussion

The integrated operations, unlike the overvaluation of the technical specialties, of the health professionals enhances the care process; generating displacements at all subjects involved in the treatment (healthcare professionals, family members and the patient himself) towards the quality of life of the patient<sup>15,16,25</sup>.

In the reported case, there was the participation of three professionals (physiotherapist, speech therapist and acupuncture doctor) in a simultaneous and complementary manner, with no hierarchy in the clinical procedures.

As explained earlier, the neuropraxic injury can be a factor that favored the recovery of the case, but the rehabilitation carried out by health professionals cannot be left out and shows up more effective in the recovery of cases of PFP<sup>18</sup>.

The literature and the speeches of professionals demonstrate a tendency to choose only one of rehabilitation approaches, and the work carried out by the physiotherapist and speech therapist are commonly cited. Routinely, they justify that the simultaneous practices can hinder the recovery of the patient<sup>13</sup>.

However, in the studied case, this issue was overcome by the permanent integration of the professionals involved<sup>15</sup>. It demonstrates the same direction, a study that showed the effectiveness of Speech, Language and Hearing Sciences attendances associated with acupuncture technique<sup>24</sup>.

As previously mentioned, besides the functional demands, the emotional and the social ones were also brought by the patient at the speech therapy sessions, and were considered in the recovery process. Thus, it was understood that the patient chose a professional to exercise the therapist function (among the clinicians that acted in this case) to reveal anxieties and limitations associated with the sense of fragility due to the PFP<sup>25</sup>.

## Final considerations

In this case, the joint action of a multidisciplinary team contributed to the treatment process of the PFP, namely: recovery of mime and expressive movements, improvement in speech, chewing and

swallowing. The clinical plan adopted by the team showed favoring results to the case, as it involved the demands brought by the patient, in both functional and psychosocial aspects.

The case report allows to answer the objective of highlighting the positive effects of multidisciplinary approach, however it is necessary to consider conducting further research with considerable casuistry, so that, it is possible to demonstrate the effectiveness of the treatment accomplished with multidisciplinary team.

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