181 - FHYSIOTHERAPY´S TREATMENT OF PAIN IN CONNECTION OF TEMPOROMANDIBULAR DYSFUNCTIONS

ALEKSSANDRO HAMAN FOGAGNOLI;
VANESSA TERRA GONZALEZ FERRERAS FOGAGNOLI.
PONTIFÍCIA UNIVERSIDADE CATÓLICA DO PARANÁ / CURITIBA / BRASIL
vanessaferreras@hotmail.com

INTRODUCTION

Currently there is an increasing frequency of patients complained of pain in the temporomandibular joint (ATM) in the dental office, associates or not the symptoms described above. In order to minimize the pain of these patients, it can be physiotherapy intervention in the pain arising from disorders temporomandibular, and therefore with this work we set out to determine which of the proposed treatment was more effective for that purpose.

This work has made a study comparing treatment physical pain due to temporomandibular disorders using two groups of subjects: a group treated with techniques manuals and other with electrotherapy and phototherapy. The intent was to which of physiotherapy treatments offered (technical manuals or combination of electrotherapy and phototherapy), best results in patients with pain due to temporomandibular dysfunction.

The temporomandibular joint is part of a system that includes bones, muscles, ligaments, nerves and teeth, which is whole system responsible for chewing, swallowing, speech and expression of the face. Any imbalance in its delicate mechanism can trigger health problems that often are not properly and diagnosed as a consequence, they are also erroneously treated.

Headaches, cervical, pain on the movement of opening and closing of the mouth are just some of the symptoms that may relate to person with temporomandibular dysfunction (Capella, Papaiz & Larose - 2001).

According to the Brazilian Society of Information of the Medical Conditions Temporomandibular joint disorder is a disorder of articulation and muscles of the neck and orofacial region, which may have among its orofacial pain symptoms, ear infections, headaches, neuralgia, noise, detours and crashes of the joint. Because these structures are orofacial associated with important tasks such as feeding, communication, vision and hearing, and also form the framework of the individual in appearance visual, speech and self-esteem, the chronic pain affects the orofacial individual modifying some of its features psychosomatic, and thus, reducing their quality of life.

The etiology of temporomandibular dysfunction is multifactorial including dental occlusion, joint dysfunction, and neuromuscular factors psychogenic. This is a complex entity and each patient must be only being considered as important to identify the factors, which involved and should always be in mind that the joints temporomandibular joints are complex, in its intimacy various structures that can trigger pain.

According to Toxinomia Committee of the International Association for the study of pain - International Association of the Study of Pain (AISP) - pain is "an unpleasant emotional and sensory experience, resulting from actual or potential tissue damage, or described in such terms. "

The orofacial pain, as the term suggests, refers to that Algia occurs on the face and perioral structures. According to Bell (1991) and Bonica (1990), presents the most diverse origins: infectious, vascular, neoplastic, among others. You are in most cases, associated with the muscles of mastication and temporomandibular joint, and called temporomandibular dysfunction - DTMs.

The aim of this research was to compare the effectiveness of physiotherapy treatments offered by the researchers in pain resulting from temporomandibular disorders. Among the goals It was highlighted specific: to study the temporomandibular joint and cervical region, understand the physiology of pain, study the fascia and pompages, understand the physiology and implementation of the Laser and TENS in DTMs and, finally, to propose a program of treatment for the pain caused by the temporomandibular dysfunction. The subjects underwent treatment in this research were divided into two groups, which were used in Group I, TENS (transcutaneous electrical nerve stimulation), with the aim to close the gates of pain and increase the local blood Laser associated with the framework that reduces inflammation, and in Group II were used the techniques of manual therapy, including the maneuvers miofasciais or pompages and endobucais maneuvers, in order to relax the cervical muscles and orofacial, lengthen the muscles, and improve vasculature to the site.

METHODOLOGY

To begin the work, was made a bibliographic on the main points of research for the theory espaldar study, which included the anatomy and biomechanics of the TMJ and neck, physiology of pain, technical manuals (pompages neck, stretching endobucais, decoaptação of temporomandibular joint) and resources eletrofototerapêuticos (TENS and laser). The necessary information was obtained at library books and articles of the Pontifícia Universidade Católica of Paraná, private collections of members and the guiding the search. The Internet was also used as a source of information for the complementation of the party's theoretical research.

The next step was to define the subjects. A principle, the subjects would be referred to the Clinic of Dentistry Pontifícia Universidade Católica of Paraná to be evaluated and or not included in the research, but it was not possible during the work.

Because of factors including the research subjects were considered following factors: being the bearer of pain arising from disorders temporomandibular be female, be between the age of

20 to 40 years old, living in the city of Curitiba - Paraná - Brazil.

The factors to the exclusion of research subjects were: being the male, has 20 years of age or over 40 years, does not carry of pain resulting from temporomandibular disorders, do not live in

Curitiba - Paraná - Brazil, present or other related diseases be in gestational period.

Were selected for the research subjects who were only two subject to an assessment based on physiotherapy Oliveira (2002, p. 216-217), emphasizing the extent of opening the mouth and numerical scale of pain.

Upon completion of physiotherapy assessment, the subjects were undergoing treatment, while the subjects were divided into two groups containing an integral in each group. With the subject of the Group I was the treatment by using manual techniques, including neck pompages, stretching endobucais, the decoaptação temporomandibular joint, and the subject of the Group II were eletrofototerapêuticos resources used (TENS and laser).

The evaluation and care of research subjects were performed in dependencies of the Pontifícia Universidade Católica of Paraná, in the Clinic Physiotherapy and Rehabilitation, located on the street Salgado Filho, No. 555, neighborhood Prado

Velho in Curitiba, the state of Paraná. 10 sessions were held treatment of physical with each group, which performed three weekly attendance of 50 minutes each.

The physical treatment of the subject in Group I included seven maneuvers miofasciais in the neck and seven draws in ATM, based on KALTENBORN (2001) and EDMOND (2000).

The subject of Group II was treated with the resources eletrofototerapêuticos (TENS and laser).

The survey data for the compilation of comparative study between two groups based on the improvement in pain and range of motion of ATM. For both the data were collected in the beginning and the end of each session.

REVIEW AND DISCUSSION OF DATA

Upon completion of the practical part of the search and possession of results obtained, work began on the analysis of the data.

Regarding the pain produced by the research subjects, obtained the results as graphs 1 and 2.

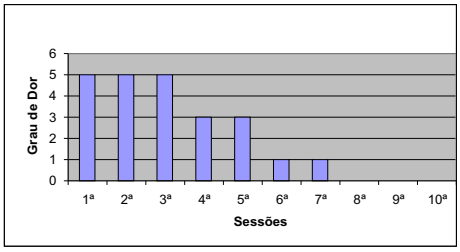

Chart 1 - Degree of Pain Therapy for the Group Submitted Manual

In graphic 1observou that the subject of research initiated meetings with a degree of pain 5 (in pain scale of 0 to 10), and remained with the same degree of pain during the first three sessions of treatment. When running treatment of the subject evolved with progressive reduction of pain degree of pain for 3 in the fourth and fifth sessions, grade 1 in the sixth and seventh sessions and the abolition of pain from the eighth session until the end of treatment.

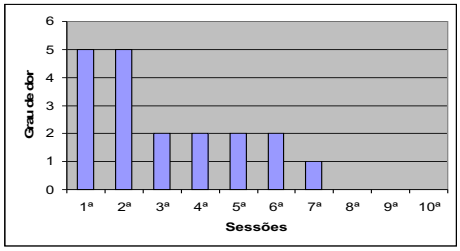

Figure 2 - The degree of pain in the group submitted to Eletrofototherapy

In Figure 2, it was observed that the subject of research started with a degree of pain 5 (in pain scale of 0 to 10) and remained with the same degree of pain until the second session. In the course of the treatment the subject evolved with gradual reduction of pain degree of pain for 2 from the third session until the seventh session, and gradually abolishing the pain from the eighth session until the end of treatment.

Regarding the opening of the mouth, the graphics 3 and 4 show results.

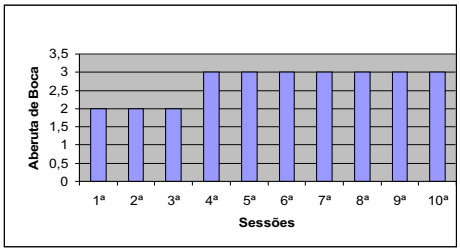

Chart 3 - Open Mouth Submitted to the Group Therapy Handbook

In chart 3, it was observed that the opening of the mouth was initially of two fingers and remained so until the end of the third session. With the course of treatment the subject reported improvement in opening the mouth to three fingers from the fourth session and remained until the end of treatment with the same opening.

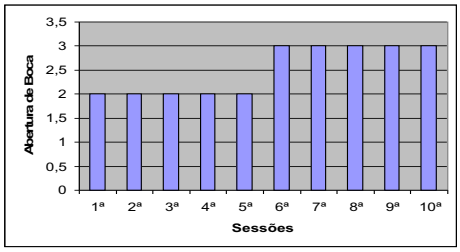

Chart 4 - Opening of the Mouth of the Group Submitted to Eletrofototherapy

Chart 4 shows that initially the opening of the mouth of subject was two fingers and emained so until the end of the table Thursday session. From the Friday session the subject reported improvement Significance of the table, increasing the opening of the mouth for three fingers.

It was observed that the subject of the group treated with manual therapy reported slow and gradual improvement of pain, but since the enhances effective first session reported muscle tension in the region orofacial and neck, because of the immediate reduction of muscle tension. The subject evolved rapidly improves with the opening of the mouth of two fingers

sessions for the first three fingers until the end of treatment.

The subject of the group treated with the improvement achieved eletrofototerapia fastest of the pain and slow and gradual improvement of the degree the opening of the mouth. This result suggests that despite the improvement over Rapid's pain, the guy got slower reduction in tension It also improves muscle and therefore slower the degree of openness mouth.

The graphs 5 and 6 show in a comparative way, with which the number of sessions that the subjects had improvement in pain and the openness of mouth, respectively.

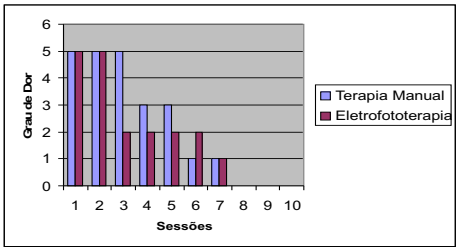

Chart 5 - Comparison between the Research Groups: Degree of pain and Number sessions

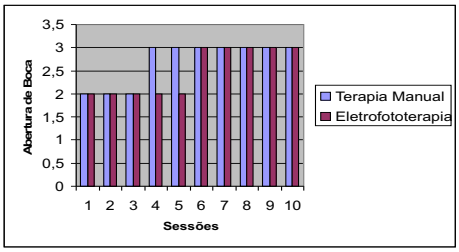

Chart 6 - Comparison between the Research Groups: Open Mouth and Number of sessions

After analyzing and comparing data it was observed that the two proposed therapies have proved effective in the treatment of orofacial pain due to temporomandibular dysfunction, since the end of the two treatment of the subjects reported a total reduction of pain and improves the penning of the mouth. The therapies, each with its particular developments have reached its main objectives, among them the abolition pain, promotion of muscle relaxation, improves the opening of mouth and, consequently, improves overall quality of life for subject.

FINAL CONSIDERATIONS

As assertion of several authors, the joint dysfunction Temporomandibular, mainly orofacial pain is a condition that may reduce the quality of life of individuals in general.

This research sought to focus on treatment of orofacial pain using are two distinct methods - Manual Therapy and Eletrofototherapy - in women aged 20 to 40.

The study was conducted between the months of August 2003 to May 2004, including bibliographic searches, evaluation physiotherapy for choosing the search, physiotherapy intervention and reassessment.

After analyzing the data could be concluded that either the therapy Manual on eletrofototerapia physical methods are effective for the treatment of orofacial pain, because none of the research subjects showed persistence of pain during or after work.

There were, furthermore, improves the opening of the mouth, improves the voltage muscle of the neck and orofacial region, which cooperated to say that the protocols are implemented effective in reducing orofacial pain.

This research has no intention of becoming a model to be followed in treatment of disorders of the temporomandibular joint, but by means it opens up the opportunity for the development of new studies Related to this issue, which may be creating new protocols of treatment, new features can be used to eletrofototerapia and manual therapies for the treatment of orofacial pain.

REFERÊNCIAS BIBLIOGRÁFICAS:

BAXTER, G. David. ***Therapeutic lasers:*** **theory and practice.** 1ª Ed. New York: Churchill Livingstone, 1995.

BIENFAIT, Marcel. **Fáscias e Pompages**: estudo e tratamento do esqueleto fibroso. 1ª ed. São Paulo: Summus, 1999.

BILL, W.E. **Dores Orofacial:** classificação diagnóstico e tratamento. 3ª ed. Rio de Janeiro: Quintessence, 1991.

BONICA, J.J. **The Management of Pain**. v. 1, 2ª ed. Pheladelphia: Lia e Febinger, 1990.

EDMOND, Susan L. **Manipulação e Mobilização.** 1ª ed. São Paulo: Manole, 2000.

GUYTON e HALL. **Fisiologia Humana e mecanismos das Doenças.** 6ª ed. Rio de Janeiro: Guanabara Koogan, 1998.

GRAY, Henry. **Anatomia**. 29ª ed. Rio de Janeiro: Guanabara Koogan, 1988.

GUIRRO, Elaine. **Fisioterapia em estética.** 2ª ed. São Paulo: Manole, 1996.

IASP *Subcommitte on Taxonomy.* **Pain terms:** *a list with definitions and notes on usage.* Pain, v. 6, p. 249252, 1979.

KALTENBORN, Freddy M. **Mobilização Manual das Articulações.** 5ª ed. São Paulo: Manole, 2001.

KITCHEN, Sheila. BAZIN, Sarah. **Eletroterapia de Clayton.** 10ª ed. São Paulo: Manole, 1998.

LEITÃO, Araújo; LEITÃO, Valéria de Araújo. **Clínica de reabilitação**. 1ª ed. São Paulo: Atheneu, 1995.

LOW, John, **Eletroterapia Explicada Princípios e Praticas,** 3ª. Edição Manole 2002.

MALONE, Terry. MCPOIL, Thomas. NITZ, J. Arthur. **Fisioterapia em Ortopedia e Medicina no Esporte**. 3ª ed. São Paulo: Santos Livraria, 2000.

NETTER, Frank H. **Atlas de Anatomia Humana.** CD ROOM. São Paulo: Artes Médicas, 1999.

OLIVEIRA, Wagner. **Disfunções Temporomandibulares**. 6ª Série. São Paulo: Artes Médicas, 2002.

PIMENTA, C.A.M., TEIXEIRA, M.J. **Pesquisa em dor**. Algumas Reflexões. Revista Simbidor, v.1, nº 1, p. 816, 2000.

RODRIGUES, Edgar Meirelles. GUIMARÃES, Cosme S. **Manual de Recursos Fisioterapêuticos.** 1ª ed. Rio de Janeiro: Revinter, 1998.

RUGHT, S.D; SOLBERG, W.K.: *Oral Heath Status in The United States:* **Temporomandibular Disorders.** J. Dent Educ, v. 49, p. 398-404, 1985.
STARKEY, Chad. **Recursos Terapêuticos em Fisioterapia.** 1ª ed. São Paulo: Manole, 2001.
VEÇOSO, Marcos César. **Laser em fisioterapia.** 2ª ed. São Paulo: Lovise, 1993.

FHYSIOTHERAPY´S TREATMENT OF PAIN IN CONNECTION OF TEMPOROMANDIBULAR DYSFUNCTIONS

ABSTRACT

The temporomandibular articulation problems, especially the incidence of orofacial pain has growing up gradually due to stress and the day's tensions that are experienced by the people day by day. Because of these problems, there is a necessity of physiotherapy's treatment that is managed to that dysfunction. This search compared the pain's physiotherapy treatment resulting of the temporomandibular dysfunction using handmade techniques and electrotherapy and phototherapy in female patients at the ages of 20 to 40 years old. The conclusion of this investigation, according to the data's analysis, was the techniques choose showed up useful to alleviate symptoms referred by the subjects of the search.

Keywords: temporomandibular articulation, orofacial pain, physiotherapy's treatment of temporomandibular dysfunction

TRAITEMENT PHYSIOTHÉRAPIE DE LA DOULEUR DANS LE CADRE LES ANOMALIES TEMPORO

RÉSUMÉ

Les problèmes de l'articulation temporo-le, en particulier la douleur orofaciale, son incidence est en augmentation en raison de stress quotidien et les tensions vécues par les individus en général. Par conséquent, il est nécessaire d'agir de physiothérapie à ce dysfonctionnement. Cette étude visait à comparer le traitement de la douleur physique résultant de la dysfonction temporo utilisant des manuels techniques et eletrofototerapia chez les femmes âgées de 20 à 40 ans. Basé sur l'étude des données a conclu que le choix des techniques se sont révélées utiles pour le soulagement des symptômes mentionnés par les sujets de recherche.

Mots clés: articulation temporo-le, orofaciale la douleur, la dysfonction temporo-en Physical Therapy.

TRATAMIENTO EN TERAPIA FÍSICA DEL DOLOR EN RELACIÓN A LAS ANOMALÍAS TEMPOROMANDIBULAR

RESUMEN

Los problemas en la articulación temporomandibular, especialmente la del dolor orofacial, su incidencia está aumentando debido al diario estrés y las tensiones experimentadas por los individuos en general. Por lo tanto, es una necesidad para la adopción de medidas de fisioterapia dirigido a esta disfunción. El objetivo del estudio fue comparar el tratamiento de dolor físico resultante de la disfunción temporomandibular usando técnicas manuales y eletrofototerapia en mujeres de 20 años de edad a 40 años. Sobre la base del análisis de los datos llegó a la conclusión de que el elegido técnicas han demostrado ser útiles para el alivio de los síntomas mencionados por los sujetos de la investigación.

Palabras clave: articulación temporomandibular, dolor orofacial, disfunción de la articulación temporomandibular en Terapia Física.

TRATAMENTO FISIOTERAPÊUTICO DA DOR DECORRENTE DAS DISFUNÇÕES TEMPOROMANDIBULARES

RESUMO

Os problemas na articulação temporomandibular, principalmente a dor orofacial, vem aumentando gradativamente sua incidência devido ao estresse e às tensões diárias vividas pelos indivíduos de um modo geral. Por isso, observou-se a necessidade de uma atuação fisioterapêutica direcionada a esta disfunção. Esta pesquisa visou a comparação entre o tratamento fisioterapêutico da dor decorrente da disfunção temporomandibular usando técnicas manuais e eletrofototerapia em pacientes do sexo feminino na faixa etária de 20 a 40 anos. Com base na análise dos dados concluiu-se que as técnicas escolhidas mostraram-se úteis para o alívio dos sintomas referidos pelos sujeitos da pesquisa.

Palavras-chaves: articulação temporomandibular, dor orofacial, Fisioterapia na disfunção temporomandibular.