International Journal Of

Recent Scientific Research

ISSN: 0976-3031
Volume: 7(5) May -2016

SOFT LASER IN MANAGEMENT OF POST EXTRACTION TRISMUS- A CASE REPORT

Sanyukta S Khairnar., Suraj C Bangar., Sagar S Joshi and Kalyani A Bhate

THE OFFICIAL PUBLICATION OF
INTERNATIONAL JOURNAL OF RECENT SCIENTIFIC RESEARCH (IJRSR)
http://www.recentscientific.com/ recentscientific@gmail.com

ISSN: 0976-3031

Available Online at http://www.recentscientific.com

International Journal of Recent Scientific Research
Vol. 7, Issue, 5, pp. 11160-11162, May, 2016

International Journal of Recent Scientific Research

Case Report

SOFT LASER IN MANAGEMENT OF POST EXTRACTION TRISMUS- A CASE REPORT

Sanyukta S Khairnar., Suraj C Bangar., Sagar S Joshi and Kalyani A Bhate

Dr. D.Y. Patil Vidyapeeth, Dr. D.Y. Patil Dental College and Hospital, Pimpri, Pune-18

ARTICLE INFO

Article History:

Received 06th February, 2015
Received in revised form 14th March, 2016
Accepted 23rd April, 2016
Published online 28th May, 2016

Keywords:

LLLT, Post extraction trismus, photobiostimulation.

ABSTRACT

Post extraction trismus refers to reduced mouth opening and has been a very common complication since ages. This hampers the normal functioning of the TMJ. Various treatment modalities have been used to reduce pain and achieve adequate mouth opening. Low level laser treatment is a novel therapy in dentistry. Its use in healing and better treatment outcomes has been significant. It has been proven beneficial for treatment of myofacial pain, edema and improved post op healing. The therapy is applied directly to the surface of interest which stimulates cells, increases blood flow and oxygen release which helps in reducing inflammation and pain. There have been many conventional methods being used for relief from trismus, but the search for better outcomes continues. Here we present a case of long standing post extraction trismus treated with the help of LLLT.

INTRODUCTION

Post extraction trismus and pain have debilitating effect on the patient. It not only affects the function but also the quality of life. Treatment of trismus is a challenge due to its various causative factors. The use of ozone therapy[1], ultrasound [2], physiotherapy[3], soft diet and several treatment modalities are available for the management of post-extraction trismus. Post extraction trismus may be secondary to the injection technique or surgical technique leading to inflammation of tissues or spread of low grade infection into the surrounding tissues. The use of light as a therapeutic agent has been established since ages[4]. LASER is an acronym for Light Amplification by Stimulated Emission of Radiation. Therapeutic lasers have a wide benefit to patients. A light source treatment that produces monochromatic & coherent light of single light wavelength is called Low Level Laser Therapy (LLLT)[5]. The direct application of LLLT to stimulate cell responses in order to promote tissue healing, decrease inflammation and induce analgesia[6]. It improves microcirculation by causing dilatation of arterioles, the function of damaged neurological tissue by increasing the maturation and regeneration of neural tissue and reducing synthesis of inflammatory mediators[5]. It inhibits the nonciceptive signals and controls the pain mediators[7]. LLLT is a non invasive therapy without any known side effects[8]. It is suggestive to be effective against pain and TMD[7]. Recently, LLLT has been used to treat various inflammatory conditions. Here, we report a case of treatment of post extraction trismus and pain treated with the help of LLLT.

Case report

A 35year old male patient reported to the department of oral and maxillofacial surgery at our institute, with the chief complaint of pain and reduced mouth opening. The patient had a history of bilateral third molar extraction 3 months ago and was experiencing pain and reduced mouth opening since then. He had undergone anti inflammatory therapy followed by prior local heat application therapy.

On examination, extraorally, no facial asymmetry was detected, lymph nodes were non palpable. Intraorally, no abnormalities were detected. Restricted mouth opening was observed to be 20mm. Radiographic investigations were carried out. No abnormalities were detected.

Provisional diagnosis was post extraction muscular spasm leading to trismus. Accordingly, treatment plan was advised to the patient.

Initially, analgesics and anti inflammatory treatment was prescribed for 5 days prior the treatment of low level laser therapy (LLLT) to rule out latent infection. Later, the patient was given LLLT treatment on alternate days in 7 sessions in the period of 15 days. LLLT treatment was given for a span of 3 minutes on both sides of the jaw area at 1.2 joules/minute with a 660nm soft tissue laser machine by Silberbaur®. The LLLT protocol can be beneficial in tissue response and decreased pain and swelling[9].

Significant pain relief and mouth opening was observed from 5th day of the therapy. The pain levels were evaluated

**Corresponding author: Sanyukta S Khairnar*
Dr. D.Y. Patil Vidyapeeth, Dr. D.Y. Patil Dental College and Hospital, Pimpri, Pune-18

subjectively using VAS at the beginning and at the end of the treatment. The pain VAS is a unidimensional measure of pain intensity which has been widely used in diverse adult population[10].

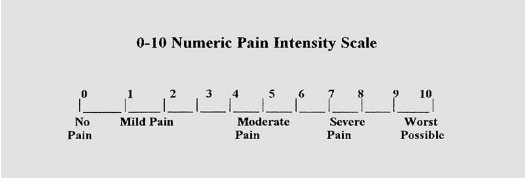

Table 1 Visual Analogue Scale

Mouth opening was measured by using a standard scale at the beginning and at the end of the treatment.

At the end of the session pain was insignificant with mouth opening approx 40 mm.

Fig1 Pre therapy photograph showing mouth opening of 20mm.

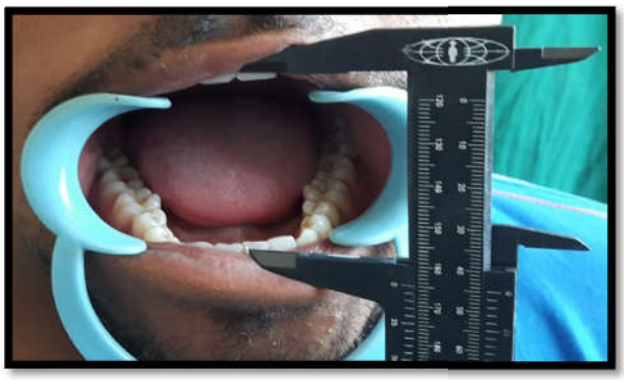

Fig2. Post therapy photograph showing mouth opening of 40mm.

DISCUSSION

The present study demonstrated that LLLT, applied bilaterally was beneficial in the treatment of pain and trismus. In our case, pain relief was evident in two seating of the therapeutic treatment. LLLT has helped relief myofacial pain[11]. In 2004, the world association of laser therapy approved an agreement on the design of clinical studies employing LLLT, resulting in positive reactions of patients to technologically advanced treatment in laser were found[12]. Similar findings were found by Simel Ayyildiz[13] in his application of LLLT in treatment of TMD. Sevinc Kulekcioglu[14] concluded in his article stating that low level laser therapy can be considered as an alternative physical modality in the management of TMJ disorders. Manaf Taher Agha[15] also concluded that LLLT can be an effective treatment method for pain relief and healing in many cases in the dental clinic, especially those who are not responsive to the conventional treatments. Maia.M de M.L[5] *et al* in 2014 also stated LLLT promoted an improvement in masticatory performance and Pressure Pain Threshold of the masticatory muscles.

The present study examined the effect of LLLT on relieving pain and trismus & found out that LLLT has significantly decreased pain and helped increase mouth opening.

However, this study has some limitations, excluding the patients having bony abnormalities. In order to be able to suggest a treatment protocol a study population with a greater sample size followed up for longer period and treated with different low level laser parameter should be used.

CONCLUSION

LLLT showed positive results in relieving the patient from pain and trismus. A long term comparative, multicentric study would be much useful in confirming our findings.

Acknowledgements

We thank all teaching and non-teaching staff of our department for their co-operation and support.

References

1. Kazancioglu H, Kurklu E, Ezirganli S. Effect of ozone therapy on pain, swelling and trismus following third molar surgery. *International journal of oral and maxillofacial surgery may* 2014; 43(5):644-648.
2. Kerry G Baker, Valma J Robertson, Francis A Duck. A Review of Therapeutic Ultrasound: Biophysical Effects. Physical Therapy 2001; 81(7)1351-1358.
3. Rashid A, Matthews N, Cowgill H. Physiotherapy in the management of disorders of the temporomandibular joint- perceived effectiveness and access to services: a national United Kingdom survey. *British journal of oral and maxillofacial surgery* jan2013; 51(1):52-57.
4. Reddy R, Ramya K, Ramesh T. Photodynamic therapy in oral diseases. Int J Biol Med Res. 2012; 3(2):1875-1883.
5. Mila Leite de Moraes Maia & Maria Amália Gonzaga Ribeiro &Luiz Guilherme Martins Maia & Juliana Stuginski-Barbosa &Yuri Martins Costa & André Luís Porporatti &Paulo César Rodrigues Conti & Leonardo Rigoldi Bonjardim. Effect of low-level laser therapy on pain levels in patients with temporomandibular disorders: a systematic review. Lasers Med Sci 2014; 29:29–35.
6. Carroll JD, Millward MR, Cooper PR, Hadis M. Developments in low level light therapy (LLLT) for dentistry. Dental materials may2014; 30(5):465-475.
7. 7. Banerjee S, Pal S, Pal T.K.Low level laser therapy (LLLT)- A Boon to dentistry. Guident dec2015; 62-63.
8. Rahimi A *et al*. Application of low level laser in temporomandibular disorders: J Lasers Med Sci 2011; 2(4): 165-70.
9. Gasperini G, Rodrigues de Siqueira, Rezende Costa. Does low level laser therapy decrease swelling and pain resulting from orthognathic surgery? International journal of oral and maxillofacial surgery jul2014; 43(7):868-873.
10. Hawker g, Mian S, Kendzerska T. Measures of adult pain. Arthritis care & research 2011; 63(11): 240-252.

11. Doeuk C, Hersant B, Bosc R, Lange F. Current indications for low level laser treatment in maxillofacial surgery: a review. British *journal of oral and maxillofacial surgery* apr2015; 53(4):309-315.
12. Sancakli e, Bilge G, Balik A.Early results of low level laser application for masticatory muscle pain: a double blind randomized clinical study. BMC Oral health 2015; 15:131. DOI 10.1186/s12903-015-0116-5.
13. Simel A, Faruk E, Cem S. Evaluation of low level laser therapy in TMD Patients. Case reports in dentistry 2015.Doi.10.1155/2015/424213.
14. Sevinc Kulekcioglu1*et al*. The effectiveness of low-level laser therapy in temporomandibular disorder. Scand J Rheumatol. 2003; 32:114–8.
15. Agha, Manaf Taher. Low-level Laser Therapy as a Solution in the Dental Clinic.J Oral Laser Application 2007; 7:1:65-73.

****

How to cite this article:

Sanyukta S Khairnar *et al*. 2016, Soft Laser in Management of Post Extraction Trismus- A Case Report. *Int J Recent Sci Res.* 7(5), pp. 11160-11162.

TSSN 0976-3031