

COMPLICATIONS OF THE COMBINED SOFT TISSUE INJURIES OF THE MAXILLAFACIAL REGION AND THE ROLE OF INNOVATIVE METHODS FOR IT'S TREATMENT

¹Abdurakhmonov Farkhod Rakhmonovich, ²Akhmedov Alisher Astanovich, ³Usmonov Rakhmatullo Fayzullaevich, ⁴Gafforov Usmon Bobonazarovich, ⁵Abdurakhmonova Feruza Farkhodovna

^{1,2,3,4,5}PhD Assocaite professor

<https://doi.org/10.5281/zenodo.10155854>

Abstract. *This article gives overview about positive influence of the laser and ozone for the complications of the combined soft tissue injuries of maxillofacial region. In addition to this, gives literature overview of the high intensity laser lights and its use for the complications of the combined soft tissue injuries of maxillofacial region. Furthermore, efficacy of the high intensity lase is demonstrated for the treatment of the inflamed complications of combined injuries of facial region.*

In this article, the most important research methods used in modern psycholinguistic research are

Keywords: *high intensity laser, complications of combined soft tissue injuries, maxillofacial region, wound healing, features of the laser.*

INTRODUCTION. Laser treatment is a common physiotherapy treatment method, which uses low-frequency laser light, and this laser uses a beam of the same fixed length. The intensity of the beam is 1-100 mW, the impact power is 5-100 W. Maxillofacial wound healing is a complex clinical problem and wound healing can be accelerated if properly selected effective wound care principles are followed. This process involves a large number of cell populations, extracellular matrix and mediators such as growth factors and cytokines. These treatment plans have a positive effect on the healing course of soft tissue injuries and reduce injury complications. Therefore, each dose of laser light has its own therapeutic effect. Today, laser therapy is used in several fields of medicine, especially gastroenterology, dermatology, cardiology, cosmetology, neurology, oncology, otorhinolaryngology, pediatrics, pulmonology, dentistry, traumatology and orthopedics, urology. However, it's uses in the field of maxillofacial surgery have been popular as it is being very effective for the treatment complications of combined soft tissue injuries of maxillofacial region. Combined injuries of the maxillofacial region often lead to various consequences and complications, which can appear in the acute, subacute and late periods after the injury [8,9]. Despite the progress achieved in the field of reconstructive surgery in recent years, the treatment of complex defects and deformations caused by facial injuries remains problematic [5,7,10]. The classification of facial joint injury complications was developed based on several criteria related to injuries and their complications. Initially, according to the period of occurrence of complications:

- 1.) complications occurring in a short period of time after the injury;
- 2.) complications arising in the subacute period (within 2 weeks);
- 3.) late complications (after 2 weeks) [4,6].

Also, according to the depth of tissue damage of scar-deformation complications;

- 1.) superficial scars-with occupation of skin and subcutaneous fat tissues;
- 2.) medium-level - scarring deformational changes caused by damage to facial muscles and fascia;
- 3.) deep scar deformational changes are pathological changes occupying bone and connective tissue. [2,3,4].

In order to effectively treat scar deformations in the facial area of patients, the effectiveness of the anti-scar drug Contraktubex, produced by the German MERZ PHARMA company, which contains active substances such as sodium heparin, onion extract and allantoin, was analyzed[2,9,11]. As a result, it is very important to predict and adequately study the pathogenetic features of their treatment and to improve their quality of life.

THE PURPOSE OF THE STUDY. To study the effect of laser on complications of combined injuries of soft tissues of the maxillofacial region and the positive effect of laser on the process of epithelization of these fractures determine the effect.

MATERIALS REVIEW AND METHODS. During the scientific work, 60 elderly patients (17 young and older) combined soft tissue injuries of maxillofacial region, including in the inspection group. For comparative analysis, patients were divided into 3 groups. The 1st control group included 224 patients who were treated with traditional methods of treatment. 248 patients were included in the 2nd main group, and the complications of combined injuries of soft tissues of the maxillofacial region were irradiated with laser light once a day with the BTL-6000 high-intensity laser program for open wounds. From the BTL-6000 high-intensity laser device developed in Japan and Longevity hardware for research was used. and using this apparatus a 0.9% solution of sodium chloride with ozone was saturated, ozonized oil was prepared, and ozone gas was extracted. Facial treatments Starting from the day of contacting the doctor with injuries of soft tissues in the area, every day conducted at the same time of day.



Figure 1. BTL-6000 high intensity laser device.

DISCUSSION OF THE STUDY. When the patients in the comparison group and the main group were analyzed, it can be seen that the processes of inflammation and its recovery were significantly accelerated in patients treated with laser and ozone for soft tissue injuries of the

maxillofacial region compared to those in the control group. With injuries of the soft tissues of the maxillofacial region of patients in control group 1 and two subsequent main groups during follow-up comparison results showed that with ozone at a concentration of 1800-2000 µg/ml the bacteriological effect of saturated physiological solution is traditionally used. Several times its superiority over chlorhexidine was determined. The results of this difficult method of treatment are intravenous drip physiological solution prepared for cooling, the wound with ozonized sodium chloride solution washing and application of the wound with olive oil saturated with ozone is clinically proved to be very effective. The result is objective and subjective in patients' improvements: recovery of working capacity, lowering of body temperature and feelings of recovery of general condition appeared. Statistical indicators analysis showed that the treatment method applied to patients in the control group that they were less affected by the reduction of the surface compared to those in the main group showed.

CONCLUSION. So, in conclusion, the effect of high-intensity laser and ozone on the treatment of combined injuries of soft tissues of the maxillofacial region is very effective. Therefore, we can sum up that it is appropriate to use ozone and high-intensity laser in the treatment of the above-mentioned pathologies.

REFERENCES

1. Abdurakhmanov.F.R., Boymurodov.F.R. The concept of healing of joint injuries of soft tissues of the face-jaw area and its characteristics. Samarkand. 2020, No. 6 (124) Problem biology and medicine.
2. Alimova D. M., Kamilov Kh. P., Shukurova U. A. Kliniko-immunologicheskoe obsnovanie pramেনenia ozonoterapii v complexnom lechenii retsidiviruyushchego aphthoznogo stomatitis // Uzbekiston medical journal. - Tashkent, 2010. - #1. - S. 41-
3. Boymurodov Sh.A. Sovershenstvovanie diagnostici i lecheniya bolnyx s sochetannymi traumami kostey litseвого skeleta. // diss. doc. Med. Nauk. - Tashkent. - 2012 - S. 22-24.
4. Gerasimenko M.Yu. Osobennosti physiotherapy and dentistry. // Almanac of clinical medicine 2t.2.-2010- S. 436-444.
5. Gustov A.V., Kotov S.A., Kontorshchikova K.N. Ozone therapy and neurology. N. Novgorod 2011; 31-32.
6. Karimov H.Ya., Shevchenko L.I., Boboev K.T., Yugai M.A. Method ozonotherapy Succinasol. Method. posobie dlya vrachey. Tashkent 2011; 5-10, S. 14-19.
7. Rizaev J.A., Boymuradov Sh.A., Abdurakhmanov F.R., Gaffarov U.B. Significance of ozone therapy in the treatment of open wounds in maxillofacial joint injuries // Journal of biology and medical problems. - Samarkand 2000. No. 4. S 230-235.
8. Abdurakhmonov F.R, Rakhimov N.M. Special choices for the treatment of complications of the soft tissue injuries of the facial region . The American Journal of Medical Sciences and Pharmaceutical Research (ISSN – 2689-1026) Published: October 26, 2023 | Doi: <https://doi.org/10.37547/TAJMSPR/Volume05Issue10-122023>; 2(5):75-81(in Eng)
9. Boymurodov Sh.A, Rizaev J.A, Abdurakhmonov F.R. The purulent inflammation and prognostics of complications of combined soft tissue injuries of maxillofacial region/ The American Journal of Medical Sciences and Pharmaceutical Research (ISSN – 2689-1026) Published: October 12, 2023 | Doi: <https://doi.org/10.37547/TAJMSPR/Volume05Issue10-122023>; 2(5):75-81(in Eng)