

# BRITISH VIEW

MULTIDISCIPLINARY JOURNAL



[www.britishview.co.uk](http://www.britishview.co.uk)

Anthropologie, Applied Linguistics, Applied Physics, Architecture, Artificial Intelligence, Astronomy, Biological Sciences, Botany, Chemistry, Communication studies, Computer Sciences, Computing technology, Cultural studies, Design, Earth Sciences, Ecology, Education, Electronics, Energy, Engineering Sciences, Environmental Sciences, Ethics, Ethnicity and Racism Studies, Fisheries, Forestry, Gender Studies, Geography, Health Sciences, History, Interdisciplinary Social Sciences, Labour studies, Languages and Linguistics, Law, Library Studies, Life sciences, Literature, Logic, Marine Sciences, Materials Engineering, Mathematics, Media Studies, Medical Sciences, Museum Studies, Music, Nanotechnology, Nuclear Physics, Optics, Philosophy, Physics, Political Science, Psychology, Publishing and editing, Religious Studies, Social Work, Sociology, Space Sciences, Statistics, Transportation, Visual and Performing Arts, Zoology and all other subject areas.

### **Editorial board**

**Dr. Marcella Mori** Agrochemical Research Centre, Sciensano, Brussels, Belgium.

**Dr. Sara Villari** Istituto Zooprofilattico Sperimentale della Sicilia, Palermo, Italy.

**Dr. Loukia V. Ekateriniadou** Hellenic Agricultural Organization, Thessaloniki, Greece.

**Dr. Makhkamova Feruza** Tashkent Pediatric Medical Institute Uzbekistan

**Prof. Dr. Xhelil Koleci** Agricultural University of Tirana, Albania.

**Prof Dr. Dirk Werling** The Royal Veterinary College, London, UK.

**Dr. Otabek Yusupov** Samarkand State Institute of Foreign Languages

**Dr. Alimova Durdona** Tashkent Pediatric Medical Institute

**Dr. Jamol D. Ergashev** Tashkent Pediatric Medical Institute

**Dr. Avezov Muhiddin Ikromovich** Urgench branch of Tashkent Medical Academy

**Dr. Jumanioyozov Khurmatbek Palvannazirovich** Urgench state university

**Dr. Karimova Aziza** Samarkand Institute of Economics and Service

**Dr. Rikhsikhodjaeva Gulchekhra** Tashkent State Transport University

**Dr. David Blane** General Practice & Primary Care, University of Glasgow, UK

**Dr Raquel Gómez Bravo** Research Group Self-Regulation and Health, Institute for Health and Behaviour, Department of Behavioural and Cognitive Sciences, Faculty of Humanities, Education, and Social Sciences, University of Luxembourg, Luxembourg

**Dr. Euan Lawson** Faculty of Health and Medicine, University of Lancaster, UK

**Dr. Krsna Mahbubani** General practice, Brondesbury Medical Centre/ University College London, UK

**Dr. Patrick Redmond** School of Population Health & Environmental Science, King's College London, UK

**Dr. Lecturer Liz Sturgiss** Department of General Practice, Monash University, Australia

**Dr Sathish Thirunavukkarasu** Department of Global Health, Population Health Research Institute, McMaster University, Canada

**Dr. Sarah White** Department of Biomedical Sciences, Macquarie University, New Zealand

**Dr. Michael Gordon Whitfield** NIHR Health Protection Research Unit in Healthcare-Associated Infections and Antimicrobial Resistance, Imperial College London, UK

**Dr. Tursunov Khatam** Andijan State Medical Institute Uzbekistan

Manuscripts typed on our article template can be submitted through our website here. Alternatively, authors can send papers as an email attachment to [editor@britishview.co.uk](mailto:editor@britishview.co.uk)

Editor Multidisciplinary Journals

Website: <http://britishview.co.uk>

Email: [editor@britishview.co.uk](mailto:editor@britishview.co.uk)

## **Comparative characteristics of the treatment of mandibular fractures**

S.S. Urunbaeva, M.A. Pirmatov, S.S. Nosirov, A.A. Kholikov.

Tashkent State Dental Institute 5th year student

Tashkent State Dental Institute 5th year student

Tashkent State Dental Institute 5th year student

Tashkent State Dental Institute

**Abstract** Despite the wide variety of scientific studies aimed at studying the properties of osteoplastic materials; there are enough works in the modern scientific literature that give practical recommendations on the use of materials in maxillofacial surgery. Also, the indications for the choice of one or another type of osteotropic material are not clearly defined.

**Keywords:** mandibular fracture, osteotropic material, treatment, patients, defects

In recent years, along with a general increase in traumatism, there has been an increase in the frequency of maxillofacial injuries, so the problem of traumatism of the maxillofacial region continues to be one of the most urgent in surgical dentistry (Vernadsky Yu.I., 2003; Ivashchenko N.I., Ippolitov V. P., 1986, 2007; Chandra Shekar B.R., Redd y C, 2008). Among the injuries of the maxillofacial region, fractures of the lower jaw predominate, the cause of which was a household injury (Alexandro in N.M., Arzhants in P.Z., 1986; A.VLepilin, 1995; Shiroko in V.Yu., 1997; Malyshev V A., Kabako v B.D., 2005; Winstanle y R.P., 1984; Andra A. et al., 1990, 1991; Assael L.A., 1993; AlHashmi A.K. et al., 2008 and others). The most common among the injuries of the facial skeleton are fractures of the lower jaw, which, according to domestic and foreign authors, constitute from 70% to 85% of all fractures of the bones of the maxillofacial region (Arzhantsev P.Z. et al., 1975; Vernadsky Yu.I., 1991; Sukachev V.A., 2000; Gorbonos I.A., 2007; Barrera J.E., Batuello S.G., 2006).

Moreover, there is a tendency not only to increase the number of patients with fractures of the bones of the facial skeleton, but also to aggravate the nature of the injury, mainly due to multiple fractures and combined injuries, traffic accidents, terrorist attacks, natural disasters (Antimenko O.O., 2005; Malyshev V.A., Kabakov B.D., 2005; Ivashchenko N.I., Ippolito v. V.P., 2007; Inkarbekov Zh.B., 2008; Celeste R.K., 2009). At the same time, the issues of diagnosis and treatment of mechanical trauma to the face still do not lose their relevance and are in the focus of attention of many researchers. (Shvyrkov M.B. et al., 1999; Izosimov A.A., 2007; Shinohara E.N. et al., 2006; Lopes N. et al., 2009).

To address the issues of diagnosis, treatment of fractures of the lower jaw, a significant number of methods and means are used, however, the number of complications in the post-traumatic period continues to be high and varies from 5.5 to 41% (Lepilin A.V., 1995; Prokhodnaya V.A., 2008; Erokina N.L., 2009), which

greatly complicates the treatment of victims (Dynin I.I., 1989; Efimov Yu.V., 2004; Batstone M.D. et al., 2004; Benson P.D. et al., 2006).

Despite the improvement in the methods of treatment of mandibular fractures, in the post-traumatic period one often encounters infectious and inflammatory complications, the development of which depends on a number of factors, including the presence of teeth with pathological processes and tissues periodontal. Significant factors in the development of complications are the state of resistance of the body, circulatory and innervation disorders in the fracture zone (Lukyanenko V.I., 1986; Shvyrkov M.B., 1999; Timofeyev A.A., 2004; Eiche N., Selle G., 1983; L. Cesteley et al., 1990).

In addition, they are often complicated by traumatic osteomyelitis. The search for new ways to optimize the treatment of fractures of the bones of the facial skeleton, in particular the lower jaw, and the prevention of traumatic osteomyelitis are still relevant. Special attention deserves the food concentrate of grape polyphenols - "Enoant", containing polyphenols of flavanoid and non-flavanoid groups, as well as microelements Zn, Cu, Mn, Fe. Due to this combination of substances, "Enoant" has a variety of properties: antibacterial, antiviral, antioxidants, etc.

Of the methods of treatment of fractures of the lower jaw, the most widely used is the immobilization of the lower jaw with the help of dental splints and intermaxillary rubber traction. When applying double jaw splints, professional and individual oral hygiene is difficult. With prolonged immobilization of the lower jaw, the function of the salivary glands suffers, which also worsens the hygienic condition of the oral cavity (Mozgovaya L.A., 1997; Gavrilenko M.S., 1999). Plaque microorganisms are direct cause of inflammatory processes in the periodontium. Normally, resistance mechanisms counteract microorganisms, but as soon as they overcome this protection in some place, an infectious process develops with tissue damage (Volozhin A.I., Poryadina G.V., 2000; Flemming Th.F., Karen N., 1998; Straka M., 2000;).

The most difficult to diagnose, controversial in the choice of treatment method and diverse in the manifestation of post-traumatic consequences are fractures of the condylar process of the mandible, accounting for 25% to 41% of all types of mandibular fractures (A.A. Levenets, 1989; A.V. Vasiliev, 2001). Meanwhile, an increase in the number of injuries of the condylar process of the mandible, as well as an increase in the severity of the resulting injuries, require the development of optimal tactics for the treatment of patients with this pathology.

To maximize the restoration of the anatomical shape of the damaged condylar process of the mandible, a number of advanced surgical methods of treatment have been proposed, the principle of which is to reposition and fix fragments using metal plates, pins, frames and devices of various designs (I.N. Matros-Taranets et al., 2000; V.A. Malyshev et al., 2005). Adaptation and development of new technologies in the treatment of patients with mandibular fractures are important both for the tasks and for maxillofacial surgery.

The most optimal in terms of restoring the anatomical shape of the mandible and the functional activity of the masticatory muscles of the face is stable functional osteosynthesis with miniplates with screws (IN Matros-Taranets et al., 2001). However, even with this type of treatment, there are certain limitations in indications, due to a number of reasons, fractures with a significant defect in the bone tissue, fractures of the condylar process of the mandible with a significant displacement and dislocation of the head from the joint, age-related features of the bone and mandible, concomitant diseases, etc. Thus, it is still relevant to develop an algorithm for identifying patients with condylar process of the mandible fractures that threaten the development of postoperative complications during osteosynthesis with miniplates. In addition, it is important to choose the best method among the existing methods for the treatment of condylar process of the mandible fractures according to anatomical and functional results, terms of rehabilitation and minimal consequences.

The results of the study of the features of the healing process of jaw fractures during treatment with the use of osteoplastic material showed that all fractures healed without complications and a significant acceleration of the healing of bone regeneration without the formation of bone defects.

We adhered to the following scheme of dynamic X-ray monitoring of patients: in case of fractures of the lower jaw, the first image was taken immediately after the injury and duplicated after fixation of the fragments. The second study for fractures of the lower jaw was carried out after 7 days, 1 month, and subsequently after 3 months and after 6. If clinical signs of any complication appeared, this observation scheme was changed.

Immediately upon admission of patients to the hospital, in all groups of patients observed by us, a fracture line is determined on diagnostic and control x-rays after splinting of the jaws, with the presence of teeth in the fracture line or at the level of the edentulous part of the jaw with a satisfactory comparison of bone fragments.

1 month after the injury in patients of the experimental group, a line of mandibular fracture is clearly visible from the lower edge of the cortical plate to the upper edge of the alveolar process. In this period, the size of the defect without visible changes.

In patients of the control group, by this time, the contours of the edges of the contacting bone fragments at the level of the alveolar process look more contrasting.

3 months after the injury, with an uncomplicated course of healing processes and the absence of large diastasis between the fragments, the formation of callus was completed in patients in the control group. The fracture line is visible along its entire course along the edge of the lower jaw it is defined as a black-gray strip. The formation of bone regenerate along the edges of the defect is determined. In patients of the experimental group, the first radiographic symptoms of callus formation at the base of the mandibular bone appear in the form of calcification, which forms barely noticeable bone bridges that span the fracture line. In the rest of the length, the bone fusion of the fragments of the lower jaw is manifested by the increasing indistinctness

of their boundaries and the appearance of a cloudy shadow of callus, superimposed on the fracture line.

6 months after the injury, the fracture line in patients of the control group remains visible on radiographs in the form of a blurry gray narrow band with varying degrees of intensity. In patients of the experimental group, the intensity of the shadow along the fracture line was significantly reduced, more blurred and in places merges with the bone density of bone fragments and becomes almost invisible.

Clinically, after 20-25 days in experienced patients, the mobility of fragments was not clinically determined, control radiographs clearly showed foci of fracture consolidation. After 28-30 days, almost complete fusion of fragments occurred with the formation of a sufficiently strong one. Therefore, we removed the intermaxillary traction 5-1 days earlier than with the usual method of treatment, and allowed the masticatory load to an increasing degree.

Our observations indicate that the regularity of the dynamics of the course of the first stages of healing of bone injuries in the X-ray image is mainly affected by the completeness of immobilization of fragments, the amount of diastasis between them, the absence of inflammation in the surrounding tissues and in the fracture gap, careful oral hygiene and stimulation of osteogenesis using materials with osteoinductive and osteoconductive properties. The terms of formation and restructuring of the callus are significantly shorter in young people (20-30 years). The last stages of reparative regeneration are also affected by the general state of the body, the presence of a functional load.

As our studies have shown, radiographic restructuring of the callus in persons with the use of bone material in the area of the defect is significantly accelerated, and this is noticeable as early as 1-3-6 months after injury compared to patients who did not use bone material.

And the average length of stay on inpatient rehabilitation treatment and the total number of days of disability in patients was 2.6-3.0 bed-days less, respectively.

**Conclusion.** The use of combined osteoplastic preparations for the replacement of bone defects in patients with mandibular fractures is dominated by several advantages, not only by maintaining the bone relief and aesthetic balance, but also by accelerating the reparative regeneration of bone tissue, and preventing inflammatory complications in the fracture area.

## References

1. СИСТЕМЫ БОЛЬНЫХ ХРОНИЧЕСКОЙ ОБСТРУКТИВНОЙ  
Белозеров М.Н. Оценка остеопластических свойств различных  
биокомпозиционных материалов для заполнения дефектов челюстей: Дис.  
...канд. мед. наук. М., 2004.
2. Баринов С.М., Комлев В.С. Биокерамика на основе фосфатов  
кальция. М., 2005.
3. Беззубик С.Д., Гречуха А.М. Экспериментальное обоснование  
применения биоактивного стеклокристаллического материала «Биоситалл-11»

для замещения костных дефектов челюстных костей // Стоматология. 2009. № 3. С. 26–28.

4. Ардашев И.П., Григорук А.А., Плотников Г.А. и др. Возможные осложнения после взятия аутооттрансплантата из крыла подвздошной кости

// Современные технологии в травматологии и ортопедии. М., 1999. С. 191–192.

5. Артющкевич А.С. Средства и хирургические способы, стимулирующие репаративные процессы в тканях периодонта [Электронный ресурс]

//[http://boneSurgery.ru/view/sredstva\\_i\\_hirurgicheskie\\_sposoby\\_stimuliruyushie\\_reparativnye\\_processy](http://boneSurgery.ru/view/sredstva_i_hirurgicheskie_sposoby_stimuliruyushie_reparativnye_processy)

6. Fattayeva D. R., Rizaev J. A., Rakhimova D. A. Efficiency of Different Modes of Therapy for Higher Sinus after COVID-19 in Chronic Obstructive Pulmonary Disease //Annals of the Romanian Society for Cell Biology. – 2021. – С. 6378–6383.

7. Фаттаева Д. Р. и др. CLINICAL PICTURE OF SINUSITIS IN PATIENTS AFTER COVID-19 WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE //УЗБЕКСКИЙ МЕДИЦИНСКИЙ ЖУРНАЛ. – 2021. – Т. 2. – №. 2.

8. Холиков А. и др. ПЕРЕЛОМ ЧЕЛЮСТИ ДИАГНОСТИКА И ЛЕЧЕНИЕ //Stomatologiya. – 2020. – №. 2 (79). – С. 88-93.

9. Холиков А. и др. JAW FRACTURE DIAGNOSTICS AND TREATMENT //Stomatologiya. – 2020. – Т. 1. – №. 2 (79). – С. 88-93.

10. Холиков А. и др. Сравнительная характеристика методов лечения переломов нижней челюсти //Журнал вестник врача. – 2020. – Т. 1. – №. 4. – С. 109-114.

11. Холиков А. и др. Анализ современной эпидемиологической картины переломов нижней челюсти //Журнал вестник врача. – 2020. – Т. 1. – №. 4. – С. 103-108.

12. Fattayeva D. R. ADVANTAGES OF EARLY DETECTION AND TREATMENT OF ODONTOGENIC HEMORRHOIDS IN PREVENTING COVID-19 COMPLICATIONS //British Medical Journal. – 2021. – Т. 1. – №. 1.2.

13. Фаттаева Д., Ризаев Ж., Рахимова Д. ОСОБЕННОСТИ КЛИНИЧЕСКОГО ТЕЧЕНИЯ ХРОНИЧЕСКОГО ГАЙМОРИТА ПРИ БРОНХО-ЛЕГОЧНОЙ ПАТОЛОГИИ //SCIENTIFIC IDEAS OF YOUNG SCIENTISTS. – 2021. – С. 28.

14. Рахимова Д. А., Садыкова Г. А., Фаттаева Д. Р. ВЛИЯНИЕ РЕЗОНАНСНОЙ ТЕРАПИИ НА СОСТОЯНИЕ КАРДИОРЕСПИРАТОРНОЙ БОЛЕЗНЬЮ ЛЕГКИХ ПЕРЕНЕСШИХ COVID-19 //Теоретические и прикладные проблемы современной науки и образования. – 2021. – С. 376-380.