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Improving the Entire Rehabilitation of People Impacted with Mandible Problems

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Abstract: The increasing percentage of incidents of injury shows that there is an everyday rise in potential of harm occurring all around, based on the frequency and severity of injuries. Of all bone injuries, ankle, maxillofacial, and other injuries make up 3.2% to 3.8%. Jaw fractures are the most common injury that occurs most frequently in the maxillofacial region. In the Department of Maxillofacial Surgery at the Bukhara Regional Multidisciplinary Medical Center in Bukhara, 26 men and 40 women underwent surgical manipulation from 2009 to 2018, depending on the severity of the mandibles fracture. Each patient was split into two groups: 33 (50%) patients were assigned to the comparison group, and 33 (50%) patients were assigned to the main group. All patients who were diagnosed with a unilateral oblique fracture of the lower mandible angle and who did not have any concurrent medical conditions gave their informed consent. Both groups' patients had their jaws splinted and a tooth on the fracture line extracted.

Keywords: damage, fracture, mandible, inflammation, osteosynthesis, osteoreparation, immobilization.

Introduction: All nations has an increasing number of injury cases, which indicates that the risk of injury is rising daily based on both the frequency and the severity of injuries. Out of all bone injuries, the percentage of maxillofacial injuries varies between 3.2% and 3.8%. Jaw fractures rank highest among injuries to the maxillofacial region in terms of frequency of occurrence. the majority of lower jaw fractures. Particular focus needs to be on the challenging management of lower jaw fractures. Numerous treatment modalities have been developed and implemented by clinicians, both domestic and foreign. This is because the population is experiencing more injuries.

Whenever there is a lower jaw fracture and fragment dislocation, the majority of specialists advise osteosynthesis. When it comes to avoiding the unfavorable outcomes of using orthopedic methods for fragment fixation—such as traumatic periodontitis, temporomandibular joint disorders, delayed consolidation, prolonged periods of disability—this kind of surgical treatment ought to be preferred.

In the current phase of medical advancement, numerous osteosynthesis techniques have been developed and are applied in actual maxillofacial surgery procedures. These techniques include the use of bone frames fastened with screws, extra-focal devices, Kirschner spokes, different forms of intramedullary synthesis, and bone suture synthesis with wire.

Each of the aforementioned surgical techniques is either extremely traumatizing or inefficient. Moreover, extrafocal osteosynthesis devices are large and inconvenient for patients in addition to being highly traumatizing. Negative aspects related to biocompatibility problems also arise because only rigid fixation is possible when structures made of non-biocompatible metal alloys (such as titanium, tantalum, cobalt-chromium-vanadium-nickel, stainless steels, titanium, titanium-aluminum-vanadium, etc.) are used. The majority of maxillofacial surgeons who perform osteosynthesis use synthesis titanium screws or bone titanium perforated plates with screw fasteners.

The procedure of applying them is painful because it necessitates the application of numerous milling holes. Consequently, the skeletonization of fragments or fragments and the use of self-tapping

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screws—whose heads frequently come loose when screwed and unscrewed—are linked to significant time expenditures. Titanium mini-plates frequently protrude into the oral cavity, self-tapping screws migrate into the thickness of surrounding tissues, frequently during the first postoperative period, radiological observations show the phenomenon of bone tissue destruction in the screw fixation zone, and the effectiveness of this type of osteosynthesis is inadequate in individuals with porous bones.

The following conditions must be met in order to achieve the best therapeutic effect when using osteosynthesis as a permanent immobilization of bone fragments: First, ensuring reliable fixation of bone fragments, because unstable synthesis prolongs the rehabilitation period, causes nonfusion, the formation of false joints, suppuration of bone wounds and the resulting complications, improper consolidation, dysfunction of the temporo-mandibular joints, deformities of the face and dentition, and so on; second, the selection of structures that do not corrode in the body, which will not create conditions for the need for their subsequent.

Purpose of the study: improving the entire rehabilitation of people impacted with mandible problems.

Material and research methods. Depending on the severity of the mandibular fracture, 26 men and 40 women underwent surgical manipulation in the Department of Maxillofacial Surgery at the Bukhara Regional Multidisciplinary Medical Center in Bukhara between 2009 and 2018. Each patient was split into two groups: 33 (50%) patients were assigned to the comparison group, and 33 (50%) patients were assigned to the main group. All patients who were diagnosed with a unilateral oblique fracture of the lower mandibular angle and who did not have any concurrent medical conditions gave their informed consent. Both groups' patients had their jaws splinted and a tooth on the fracture line extracted.

Patients in the foundation group underwent complicated care, including surgery to apply elastic wire stitches using Clipdent-Sem. After anesthesia, the soft tissue interposition was eliminated, and an external access was used to skeletonize the area where the integrity of the mandible bone was violated. The distal fragment was positioned on the site and secured with one of the bone suture options before the wound was sutured in layers. The subsequent phase involved the formation of a supporting structure up to 0.1 cm deep in the spongy layer of the medial fragment along the entire plane of the fracture.

Three days after surgery, on the seventh, fourteenth, and twenty-first, the treatment results were examined. When the injured portion of the bone was admitted to the hospital, the mineral saturation index of the intact bone was 160.32±2.19 cu, the ends of the fragments were 89.27±2.17 CU, and there was little variation in both indicators. The absorption index was 44.88±2.21%. On the twenty-first day following surgical treatment, seven out of the thirty-four patients in the comparison group reported mild, persistent aching pains in the middle of their jaw area on the opposite side of osteosynthesis.

The scans showed that the variations between the bone fragments grew. The fracture gap is still incredibly transparent. The areas of marginal osteoporosis merged into a single focus, and the boundaries of a bone defect—along which sequesters were discovered—formed. Patients in the main group showed a reduction in the width, transparency, and appearance of bone-patterned areas in the fracture gap.

The calcium sufficiency measurement for the patients in the comparison group (58.27 ± 1.69 cu) stabilized at 60.37 ± 1.75 CU, the level of the 14-day follow-up indicator ($p>0.05$). Its Cv=32.87%) variability was likewise extremely high. The resorption index dropped to 62.56±1.82%, which did not drastically differ from the indicator of the stage prior to observation (63.29±1.55%) ($p>0.05$). Based on the available information, these patients experienced traumatic osteomyelitis.

Results and discussion: Outcomes of the study indicate that as early as the seventh day of the postoperative period, patients in the compared group had increased resorption indexes and differences in the densities of the fracture gap and initial index. By day twenty-first of the observation, these discrepancies had gotten worse. Conversely, the patients in the main group demonstrated an alignment of the mineral saturation indicators and a decrease in the resorption index by the seventh day after osteosynthesis. We can conclude that the injured bone's mucopolysaccharide-type metabolic processes

continue, since patients in the first group (comparison group) showed a decrease in the stability of their fragments.

Both titanium nickelide's chemical resistance to biological fluids and its ability to return with Clipdent-Sem to its original shape under load and unloading conditions serve as examples of its biochemical and biomechanical compatibility with biological solutions. In this regard, it has been demonstrated that titanium nickelide implants interact harmoniously with various tissues and organs throughout normal physiological functioning. Their construction involves forming legs from a wire with a diameter of 0.8–2 mm, immersing it in a layer of bone, and joining the ends together in the middle with a potentially bending section. The shape memory of these structures during osteosynthesis has the effect of making them solidify in certain conditions (cooling).

Conclusion. In order to repair bone fragments with titanium mini-plates, the additional twenty-four patients underwent extra-oral access surgery due to high damage to the condylar processes (the mandibular head and the articular process neck). Throughout this seven-day period, bimaxillary fixation was administered. Treatment outcome analysis indicates that osteosynthesis through intraoral access can be used for mandibular fractures, regardless of the degree of displacement of the bone fragments.

The following are advantages of osteosynthesis by the intraoral method: Because there are no skin scars that are visible, the surgical technique utilized here guarantees the best possible cosmetic outcomes. Because the masticatory and pterygoid muscles are preserved and there is no chance of damaging the facial nerve, it also results in little damage to the surrounding tissues and rapidly restores lower jaw function. Intraoral osteosynthesis reduces the clinical symptoms that result in a psychological deficit.

Reference:

1. Idiyevna S. G. Discussion of results of personal studies in the use ofmil therapy in the treatment of trauma to the oral mucosA //European Journal of Molecular medicineVolume. – T. 2.
2. Idiyevna S. G. THE EFFECTIVENESS OF THE USE OF MAGNETIC-INFRAREDLASER THERAPY IN TRAUMATIC INJURIES OF ORAL TISSUES IN PRESCHOOL CHILDREN //Academic leadership. ISSN. – T. 15337812.
3. Sharipova G. I. Light and laser radiation in medicine //European journal of modern medicine and practice. – 2022. – Т. 2. – №. 1. – С. 36-41.
4. Idievna S. G. THE EFFECT OF DENTAL TREATMENT-PROFILACTICS ON THE CONDITION OF ORAL CAVITY ORGANS IN CHILDREN WITH TRAUMATIC STOMATITIS //Tibbiyotdayangikun» scientific-abstract, cultural and educational journal.-Bukhara. – 2022. – Т. 5. – №. 43. – С. 103-106.
5. Idievna S. G. CHANGES IN THE CONTENT OF TRACE ELEMENTS IN THE SALIVA OF PATIENTS IN THE TREATMENT OF PATIENTS WITH TRAUMATIC STOMATITIS WITH FLAVONOID-BASED DRUGS //Journal of research in health science. – Т. 6. – С. 23-26.
6. Amro A., Samsonov V.V., Grebnev G.A. and others. Features of the clinical picture of fractures of the lower jaw in different age periods. Vestnik Ross. military - med. academy. 2012. No. 4 (40). pp. 49–51.
7. Gunter V.E., Khodorenko V.N., Chekalkin T.L. and others. Medical materials and implants with shape memory. Medical materials with shape memory. T.1 / Tomsk: Publishing house MITs, 2011. 534 p. In the world of scientific discoveries, Vol. 10, No. 5, 2018.
8. SA Kambarova EFFECT OF SURGICAL MANIPULATION TO MORPHOMETRIC DEVELOPMENT OF FACE AND JAW IN PATIENTS WITH CONGENITAL LIP AND PALATE SPLITS // Новый день в медицине, 2021- P. 128 - 130.

9. SA Kambarova Effect of Surgical Manipulation in Morphometric Growth of Maxillofacial Area at Children with Congenital Lip and Palate Splits At I and Ii Period of Childhood// Annals of the Romanian Society for Cell Biology, 1853-1858. – 2021. - Vol. 25. - Issue 4. – P. 1853 – 1858.
10. KS Alixuseynovna Identification of the morphometric parameters of the cranio-fascial region of children with congenital cleft and palate reflections using a developed research map // Central Asian Journal of Medical and Natural Science 2 (3), 286-290 Vol. 2. - Issue 3. – P. 286 – 290.
11. ША Камбарова, ШК Пулатова REVITALIZATION OF NONSPECIFIC IMMUNITY FACTORS IN PATIENTS WITH DIFFUSE PHLEGMON OF THE MAXILLOFACIAL AREA USING A BAKTERIOPHAGE // Новый день в медицине, 128-130 // New day in medicine. - 2020. - P. 128 - 130.
12. KSA Xuseynovna Optimization of the Diagnosis and Treatment of Oral Epulis Based on Morphological and Cytological Analysis // Texas Journal of Medical Science 6, 24-26
13. KS Alikhuseynovna Statistical Processing Of Morphometric Measurements Of Craniofacial Area Of Children With Congenital Cleft Labia And Palate I And II Of The Childhood Period // Zien Journal of Social Sciences and Humanities 5, 31-35
14. SA Kambarova, GS Yadgarova CHARACTERISTIC OF MORPHOMETRIC PARAMETERS OF CRANIOFASCIAL REGION OF CHILDREN WITH CONGENITAL CLEFT LIP AND PALATE // Academic research in educational sciences 2 (9), 295-303
15. KS Alixuseynovna EFFECT OF SURGICAL MANIPULATION TO MORPHOMETRIC DEVELOPMENT OF FACE AND JAW IN PATIENTS WITH CONGENITAL LIP AND PALATE SPLITS // Web of Scientist: International Scientific Research Journal 2 (09), 29-35