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Application of Maxillofacial Fracture Scales and Assessment of Quality of Life in Patients with Combined Maxillofacial Trauma

Isomov Miraskad Maksudovich
Associate Professor, Department of Maxillofacial Surgery, Tashkent State Medical University, Uzbekistan

Rizaev Zhasur Alimdzhanovich
Rector, Samarkand State Medical University, Uzbekistan

Mirzaev Alisher Umirzokovich
Doctor of Medical Sciences, Senior Researcher, Head of the Zafarobod Regional Office, State Institution "Navoi Mining and Metallurgical Plant Fund," Republic of Uzbekistan, Navoi, Uzbekistan

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Abstract: This article presents the scientific aspects of maxillofacial surgery worldwide, including aspects of concomitant traumatic brain injury. It also discusses modern surgical methods for the treatment of concomitant maxillofacial injury. A differentiated approach to the treatment of concomitant maxillofacial injury is explored. Quality of life and pain are assessed using questionnaires. The effectiveness of surgical treatment and its impact on patients' quality of life are determined.

Keywords: Developmental history, algorithm, questionnaires, scales, combined maxillofacial and craniocerebral trauma, differentiated approach.

Introduction: Trauma to the maxillofacial region is often accompanied by damage to the visual organs, brain, and paranasal sinuses. It can also be associated with damage to vital internal organs in the thoracic and abdominal cavities. Therefore, victims in this group are generally classified as severely injured. Therefore, the diagnosis and treatment of maxillofacial injuries are relevant in emergency medicine and among the most pressing issues in modern maxillofacial surgery [1, 7, 9, 14]. Traumatic brain injury is a pressing issue in modern medicine. Traumatic injuries to the skull and brain account for 30–40% of all injuries and are the leading cause of mortality and disability in working-age patients [6, 8, 9]. In cases of maxillofacial bone fractures, diagnosis begins with radiography – a traditional, routine, and still primary diagnostic method [1,6,7,9,11], which allows for the detection of fractures and deformations of the facial skeleton, abnormal positioning of fragments, and foreign bodies that may be localized in the paranasal sinuses and orbits [1,2,3,6,7]. According to current concepts, a multispiral computed tomography scan is required in 100% of cases, and in some cases, ultrasound and magnetic resonance imaging [1,9,13,14]. Various scales for assessing the severity of injuries and functional impairments in combined trauma are widely used in modern practice. Scales such as APS, NISS, ISS, ICISS, GCS, SOFA, APACHE II, MODS II, RTS, MPM II, SAPS II, as well as combined clinical-anatomical assessment systems, including RISC II, TRISS, PTS ASCOT, and others, are used. However, the development of a universal scale is hampered by the diversity of injuries and disorders, as well as the insufficient study of predictors of traumatic outcome. Proposed survival rates and prognostic factors are tied to specific polytrauma databases, which differ in mortality rates and quality of medical care, affecting their prognostic

value [4,5,6,7,10,12]. Today, patient quality of life is an important criterion for assessing treatment effectiveness in clinical trials. Quality of life is characterized by changes in a patient's physical, emotional, and social well-being as a result of illness or treatment [8]. The goal is to improve the treatment outcomes for patients with combined maxillofacial trauma by using modern methods of comprehensive diagnostics and differentiated treatment tactics and assessing the quality of life.

METHODS

We analyzed data from 234 patients with combined maxillofacial injuries treated in the Maxillofacial Surgery Department of the Tashkent Medical Academy of the Ministry of Health of the Republic of Uzbekistan from 2019 to 2024. Our differentiated approach to treatment tactics, conservative and surgical treatment, was based on the clinical presentation, objective instrumental examination findings, the severity of neurological signs, and assessment of patient consciousness using the Glasgow Coma Scale and other methods. Quality of life was assessed using the Euro Qol-5D questionnaire and a visual analogue scale (VAS) to determine pain intensity, both of which had undergone a standard validation procedure. After diagnosis, all patients underwent surgery, including colostomy, various anastomoses, and other reconstructive procedures.

RESULTS AND DISCUSSION

All 234 patients with combined maxillofacial trauma were divided into two groups based on the severity of the injury. The first group included 104 (44.4%) patients with moderate-severity injuries who received conservative treatment of the lower maxillofacial region and moderate brain contusions. The second group included 130 (55.5%) patients with severe injuries and severe brain contusions who primarily underwent surgical treatment of the lower and middle maxillofacial region. In our study, we examined the impact of a differentiated approach to the outcomes of conservative and surgical treatment based on the clinical presentation, objective instrumental examination data, and patient age and gender characteristics. In our study, all patients were classified by gender and age group according to the World Health Organization classification. It should be noted that patients often sustained injuries at home due to falls from low heights: in the bathroom, from a chair, sofa, bed, cot, windowsill, from stairs, or while riding a bicycle. In the first group of patients with combined maxillofacial trauma, the overwhelming majority of cases with domestic injuries (60.7%) were the primary cause of injury. Falls from standing height also predominated among them (61.1%), while criminal injuries were recorded in 12.4% and road traffic accidents in 15.4%. The most common cause of combined maxillofacial trauma was domestic trauma – 142 (60.7%); road traffic accidents (RTA) – 36 (15.4%); criminal injuries were recorded in 29 (12.4%); industrial injuries accounted for 14 (6.0%). Thirteen patients (5.5%) were admitted with an unknown cause. According to our data, the largest number had domestic injuries, accounting for more than half of all patients (60.7% and 61.1%, respectively). Road traffic accidents were recorded in 15.4%, criminal injuries in 12.4%, and unknown causes of injury accounted for 5.5% of cases. Of the 234 patients, the vast majority were conscious and moderately obtunded, accounting for 168 (71.8%). The remaining fifth (63 (26.9%) were in severe condition, ranging from profound obtundation to varying levels of coma. In cases of domestic injuries, the proportion of patients in extremely severe condition increased to 3 (1.3%). According to our study data, a significant proportion of patients with combined maxillofacial injuries were men of working age (184 (78.6%)), which is a pressing issue from both social and economic perspectives. In our study of all 234 patients, a somatic assessment revealed that 94 (40.2%) of these patients had somatic pathology, manifested as arterial hypertension (30 (31.9%)), neurological pathology (31 (32.9%)), and ischemic heart disease (7 (7.4%)). Seven (7.4%) cases were gastroenterology, 7 (7.4%) ENT organs, 7 (7.4%) endocrinology, 3 (3.2%) oncology, 2 (2.1%) ophthalmology patients with liver pathology, and 1 (1.1%) with renal failure. During our examination, we noted concomitant somatic diseases in patients, which undoubtedly influenced the course of combined maxillofacial trauma. Thus, out of 234 patients, 94 (40.2%) had concomitant somatic pathology, manifested both in isolation and in combination. The study of the clinical course of patients with combined maxillofacial trauma is of significant interest in terms of

diagnosis, determination of differentiated tactics, results and outcomes of treatment. Depending on the clinical phase of the course, patients with combined maxillofacial trauma were divided as follows: 128 (54.7%) patients - in the stage of clinical compensation; 64 (27.3%) - in the stage of clinical subcompensation; 33 (14.1%) - in the stage of moderate clinical decompensation;

Fig. 1. Condition of patients with combined maxillofacial trauma upon admission n=234

In all 234 patient examinations, we assessed each case individually and made differentiated decisions when determining further treatment strategies to further improve outcomes. In our studies, critical conditions were observed in 3 patients (1.3%) with severe brain contusions, basal skull fractures with livery, and multiple midface injuries. Severe conditions were observed in 85 patients (36.3%) with multiple midface injuries and severe brain contusions. Out of 117 patients (50%) with moderate brain contusions and lower facial fractures, the severity was assessed as moderate. In our observations, 29 patients (12.4%) were in satisfactory condition. Patients with combined maxillofacial trauma underwent a general clinical and neurological examination upon admission to the hospital, assessing the level of impaired consciousness and the severity of general cerebral, focal, dislocation, brainstem symptoms, and meningeal symptoms. Today, patient quality of life is an important criterion for assessing treatment effectiveness in clinical trials. Quality of life is characterized by changes in a patient's physical, emotional, and social well-being as a result of illness or treatment [8]. The goal is to improve the treatment outcomes for patients with combined maxillofacial trauma by using modern methods of comprehensive diagnostics and differentiated treatment tactics and assessing the quality of life. All 234 patients with combined maxillofacial injuries underwent instrumental examinations upon admission to the hospital based on existing standard treatment methods and our developed algorithm and scale for maxillofacial fractures. All 234 patients with combined maxillofacial injuries were divided into two groups based on the severity of the injury.

Our differentiated approach to treatment tactics, conservative and surgical treatment, was based on the clinical presentation, objective instrumental examination findings, the severity of neurological signs, and assessment of patient consciousness using the Glasgow Coma Scale and other methods. All 234 patients studied underwent a clinical and neurological examination upon admission and over time, assessing the level of impaired consciousness using the GCS, as well as the severity or presence of general cerebral, focal, brainstem symptoms, and meningeal symptoms. In our study of 234 patients with combined maxillofacial trauma, 135 patients, or 57.7% of cases, retained clear consciousness. Moderate obtundation occurred in 33 (14.1%) and profound obtundation occurred in 24 (10.3%) patients. The distribution of patients in severe condition was as follows: stupor - 16 (6.8%), coma I - 14 (6.0%), coma II - 9 (3.8%) cases. The remaining 3 (1.3%) patients had coma grade III (see Table 1).

Table 1

Assessment of the level of impaired consciousness in patients with combined maxillofacial trauma (n=234)

Level of consciousness	GCS, points	abs.	%
Lucid	14-15	135	57,7
Moderate stupor	13	33	14,1
Deep stupor	11-12	24	10,3
Stupor	9-10	16	6,8
Coma I	7-8	14	6,0
Coma II	5-6	9	3,8
Coma III	3-4	3	1,3
Total		234	100

Our analysis revealed key patterns in the clinical course of combined maxillofacial injuries. Specifically, a characteristic change in consciousness, ranging from clear consciousness to coma, was noted. All 234 patients with combined maxillofacial injuries underwent instrumental examinations upon admission to the hospital based on existing standard treatment methods and our developed algorithm and scale for maxillofacial fractures. All 234 patients with combined maxillofacial injuries were divided into two groups based on the severity of the injury.

In our study of 234 patients, no skull fractures were recorded in 85 (36.3%), while craniography revealed skull fractures in 149 (63.7%) cases. In total, 149 patients (100%) had skull vault fractures (120 (80.5%)), skull vault and base fractures (26 (17.5%)), and basal skull fractures (3 (2.0%)). In our study of 234 patients, no skull fractures were recorded in 85 (36.3%) cases, and the presence of skull fractures during craniography was observed in 149 (63.7%) cases. In total, 120 patients (80.5%) had skull vault fractures, 26 (17.5%) had skull vault and base fractures, and 3 (2.0%) had basal skull fractures, for a total of 149 (100%) patients. This breakdown by group would look as follows (see Table 2).

Table 2

Number of patients with skull vault and base fractures, n=234

Fracture Locations	Total n=234, %	1 group n=104, %	2 group n=130, %
Vault	120 (51,3%)	19 (8,1%)	101 (43,2%)
Fracture	26 (11,1%)	0	26 (11,1%)
Vault and Base	3 (2,0%)	0	3 (2,0%)

Fracture	149	19	130
Note: the differences between the indicators are statistically significant. (P <0,001)			

Our 234 patients did not undergo neurosurgery, as the diagnostic process involved screening based on the severity of the injury, using a developed algorithm and a scale for maxillofacial fractures.

In the study of 149 patients, 120 (68.6%) skull vault fractures were identified. Combined skull vault and base fractures were observed in 52 (29.7%) cases, and base skull fractures were present in three (1.7%) cases. A total of 175 (100%) cases were diagnosed. The breakdown by group is as follows (see Table 3).

Table 3

Number of patients with fractures of the vault and base of the skull, n=234

Fracture Locations	Total n=234, %	1 group n=104, %	2 group n=130, %
Vault	120 (51,3%)	19 (8,1%)	101 (43,2%)
Fracture	52 (22,2%)	0	52 (22,2%)
Vault and Base	3 (2,0%)	0	3 (2,0%)
Fracture	175	19	156
	Note: the differences between the indicators are statistically significant. (P <0,001)		

A total of 234 patients were distributed by treatment method as follows: 104 (44.4%) underwent conservative treatment, 130 (55.5%) underwent surgical treatment. Of the 130 patients in the second group, 104 (80%) underwent surgical treatment. According to the dislocation of maxillofacial fractures and treatment methods, patients in the first group received conservative treatment (104 (44.4%)), of which 74 (31.6%) had mandibular fractures, 21 (9.0%) had zygomatic bone fractures, 5 (2.1%) had maxillary fractures, and 4 (1.7%) had nasal bone fractures.

The second group included 130 (55.5%) of which 104 (80%) patients were operated on, with fractures of the lower jaw in 96 (41.0%) cases, zygomatic bone in 6 (2.6%), upper jaw in 1 (0.4%) and pearl nose in 1 (0.4%) cases, treated conservatively with fractures of the lower jaw in 16 (6.8%) cases, zygomatic bone in 8 (3.4%), upper jaw in 1 (0.4%) and pearl nose in 1 (0.4%) cases of observations (see Table 4).

Table 4

Indicators of treatment types for patients with maxillofacial fractures, n=234

Number of patients, types of treatment		Upper jaw	Lower jaw	Zygomatic bone	Nose bones
1 group n=104 (44,4%)	All patients were treated	5 2,1%	74 31,6%	21 9,0%	4 1,7%

	conservatively.				
2 group n=130 (55,5%)	Surgical treatment 104 (80%)	1 0,4%	96 41,0%	6 2,6%	1 0,4%
	Conservative treatment 26 (20%)	1 0,4%	16 6,8%	8 3,4%	1 0,4%
Total 234		7 3,0%	186 79,5%	35 14,9%	6 2,6%
Note: the differences between the indicators are statistically significant. (P <0,001)					

Based on our study data, the time from injury to hospitalization for patients with combined maxillofacial trauma ranged from a few minutes to several days. This was related to the overall somatic status. Analyzing the data obtained from the study by group, broken down into 234 patients with maxillofacial fractures, the number of cases is as follows: 456 (100%) total, with 362 (79.4%) mandibular fractures, 66 (14.5%) zygomatic bone fractures, 16 (3.5%) maxillary fractures, and 12 (2.6%) nasal bone fractures. In our study of 234 patients, clinical and radiographic examination revealed that 456 fractures of the middle and lower maxillofacial region were observed. This is due to the anatomical location of structures during injuries of various origins and their vulnerability. In our study, the first group showed 54 (14.9%) fractures in the chin area, 50 (13.8%) in the angle of the mandible, 34 (9.4%) in the condylar process, 13 (3.6%) in the body of the mandible, and 6 (1.7%) in the ramus of the mandible. According to our data, the second group showed 71 (19.6%) fractures in the chin area, 65 (17.9%) in the angle of the mandible, 44 (12.1%) in the condylar process, 18 (5.0%) in the body of the mandible, and 7 (1.9%) in the ramus of the mandible. Our analysis of the data obtained from a study of 234 patients with maxillofacial fractures revealed the following: 186 (79.5%) fractures of the mandible, 35 (15.0%) fractures of the zygomatic bone, 7 (3.0%) fractures of the maxilla, and 6 (2.5%) fractures of the nasal bone. In the first group, 157 (34.4%) fractures of the mandible, 32 (7.0%) fractures of the zygomatic bone, 7 (1.5%) fractures of the maxilla, and 9 (2.0%) fractures of the nasal bone. In the second group, 205 (44.9%) fractures of the mandible, 34 (7.5%) fractures of the zygomatic bone, 9 (2.0%) fractures of the maxilla, and 7 (1.5%) fractures of the nasal bone were observed. Based on the analysis of the obtained study data for the groups of 234 patients with mandibular fractures, the number of cases is as follows: 362 (100%) in total, of which 125 (34.5%) were fractured in the chin area, 115 (31.8%) in the angle of the mandible, 78 (21.5%) in the condylar process, 31 (8.6%) in the body of the mandible, and 13 (3.6%) in the ramus of the mandible.

In our study, 456 cases of fractures in the middle and lower maxillofacial region were observed. This is due to the anatomical location of structures during injuries of various origins and their vulnerability. Currently, there are many scales for assessing maxillofacial injuries during trauma, for example, the Facial Injury Severity Scale (FISS). The FISS scale is designed to assess the severity of isolated facial injuries, while the Acute Physiology & Chronic Health Evaluation (APACHE) scale determines the severity of a patient's health. Based on the use of existing scales and their shortcomings, we developed a questionnaire to determine the severity of patients with combined maxillofacial trauma. We aimed for a comprehensive questionnaire that could meet multiple requirements. Our questionnaire had to be easy to use and accurately measure multiple injury parameters in patients. For clarity, see Table 5.

Table 5

Localization of fractures	Points
In the middle section, total fractures	
Fractures of the teeth and alveolar process of the maxilla	1
Upper maxillary fracture (Le Fort III)	6
Middle maxillary fracture (Le Fort II)	4
Lower maxillary fracture (Le Fort I)	2
Nasoorbitoethmoidal complex (NOE) fracture	3
Zygomaticomaxillary complex (ZMC) fracture	1
In the lower section, total fractures	
Mental region fracture	1
Angle fracture of the mandible	1
Condylar process fracture of the mandible	1
Body/ramus fracture of the mandible	2
Ram fracture of the mandible	1
Nasal bone fracture	1
Total number of fractures and points	

Our user-friendly questionnaire covers the maximum range of maxillofacial injury parameters, with severity determined by assigning points. Based on the score, patients are assigned a severity rating: mild, moderate, or severe. The main part of the questionnaire is presented in a table with the scoring parameters assigned for each type of maxillofacial injury (see Table 6).

Table 6

Scores in patients with maxillofacial fractures by group, n=234

Localization of fractures	total n=234, points.	1 group n=104, points.	2 group n=130, points..
In the middle section, total fractures	94-178	41-76	53-102
Fractures of the teeth and alveolar process of the maxilla	6-6	1-1	5-5
Upper maxillary fracture (Le Fort III)	6-36	2-12	4-24
Middle maxillary fracture (Le Fort II)	8-32	4-16	4-16
Inferior maxillary fracture (Le Fort I)	6-12	3-6	3-6
Nasoorbitoethmoidal complex (NOE) fracture	12-36	5-15	7-21
Zygomaticomaxillary complex (ZMC) fracture	56-56	26-26	30-30
Fractures in the lower section: total fractures	362-366	157-158	205-208

Mental region fracture	124-124	54-54	70-70
Angle fracture of the mandible	114-114	50-50	64-64
Condylar process fracture	77-77	34-34	43-43
Body/ramus fracture of the mandible	4-8	1-2	3-6
Ram fracture of the mandible	31-31	13-13	18-18
Nasal bone fracture	12-12	5-5	7-7
Total number of fractures and points	456-544	198-234	258-310
Note: the differences between the indicators are statistically significant. (P <0,001)			

Using our questionnaire, after receiving the results, additional points are added to the total score for: comorbidities; age over 50 (2 points every 10 years); alcohol or other substance intoxication; congenital anomalies; oncological diseases; and other types of injury. Two points are added to each descriptor, and after obtaining the total score, it is divided by three, with each 30% representing the degree of injury. Thus, mild scores contribute up to 30%, moderate scores up to 60%, and severe scores up to 90% of the total score, which would be possible with maximum scores. The maximum score is calculated as follows: all high scores for the descriptors are summed up, and the scores for the additional parameters are added. According to our study, it was established that there were 94 (20.6%) fractures in the middle section and 362 (79.4%) fractures in the lower section of the maxillofacial region, with a total of 456 cases of observation. The results obtained are consistent with the literature data of world researchers and are reliable (see Table 7).

Table 7

Indicators of the incidence of maxillofacial fractures in patients by group, n=456

Localization of fractures	total n=234, %	1 group n=104, %	2 group n=130, %
In the middle section, total fractures	94 (100%)	41 (43,6%)	53 (56,4%)
Fractures of the teeth and alveolar process of the maxilla	6 (6,4%)	1 (1,1%)	5 (5,3%)
Upper maxillary fracture (Le Fort III)	6 (6,4%)	2 (2,1%)	4 (4,2%)
Middle maxillary fracture (Le Fort II)	8 (8,5%)	4 (4,2%)	4 (4,2%)
Inferior maxillary fracture (Le Fort I)	6 (6,4%)	3 (3,2%)	3 (3,2%)
Nasoorbitoethmoidal complex (NOE) fracture	12 (12,7%)	5 (5,3%)	7 (7,4%)
Zygomaticomaxillary complex (ZMC) fracture	56 (59,6%)	26 (27,7%)	30 (31,9%)
Fractures in the lower section: total fractures	362 (100%)	157 (43,4%)	205 (56,6%)
Mental region fracture	124 (34,2%)	54 (14,9%)	70 (19,3%)
Angle fracture of the mandible	114 (31,5%)	50 (13,8%)	64 (17,7%)
Condylar process fracture	77 (21,3%)	34 (9,4%)	43 (11,9%)
Body/ramus fracture of the mandible	4 (1,1%)	1 (0,3%)	3 (0,8%)
Ram fracture of the mandible	31 (8,6%)	13 (3,6%)	18 (5,0%)
Nasal bone fracture	12 (3,3%)	5 (1,4%)	7 (1,9%)
Total number of fractures and points	456 (100%)	198 (43,4%)	258 (56,6%)

Note: the differences between the indicators are statistically significant. (P <0,001)

Thus, based on our study data, mandibular fractures were most commonly observed in the submental region (125 patients, 34.5%), the angle region (115 patients, 31.8%), and the condylar process (78 patients, 21.5%), which is consistent with data from international researchers. Quality of life assessment was performed on 234 patients using the Euro Qol-5D Quality of Life Questionnaire. We believe that treatment should primarily focus on pain relief, which significantly impacts patients' quality of life. QOL assessments were conducted before and after treatment in all groups (Table 8).

Table 8

Euro Qul-5D questionnaire scores before treatment (n=234)

Groups	Number of patients	M (mobility)	S (Self-service)	HA (Household activity)	P/Д (Pain/Discomfort)	P/Д (Pain/Discomfort)	EQ-балл state of health
1	104	1	1	0,39658	0,123	0,08611	0,66271
2	130	1	1	0,3404	0,123	0,08465	0,6645
Total:	234	1	1	0,36138	0,123	0,08601	0,661705
Note: the differences between the indicators are statistically significant. (P <0,001)							

Our analysis of the quality-of-life study results for 234 patients showed that the data obtained in the two groups differed. Quality of life significantly deteriorated and was slowly restored in patients with comorbid somatic pathology. According to our data, the most significant deterioration in the Euro Qol-5D questionnaire parameters, such as pain/discomfort and anxiety/depression, occurred in all study groups. The quality-of-life study results for patients in the first group were stable, as their injuries were moderate in severity. The results for the second group of patients were labile, as their injuries and their progression were severe, and pain was a prominent factor. This significantly worsened their quality of life, aggravating their overall condition and somatic status (see Table 9).

Table 9

Euro Qul-5D questionnaire scores after treatment (n=234)

Groups	Number of patients	M (mobility)	S (Self-service)	HA (Household activity)	P/Д (Pain/Discomfort)	P/Д (Pain/Discomfort)	EQ-балл state of health
1	104	1	1	0,38922	0,4979	0,95208	-0,57638
2	130	1	1	0,3259	0,5244	1,025	-0,6124
Total:	234	1	1	0,354912	0,464848	0,975237	-0,54345
Note: the differences between the indicators are statistically significant. (P <0,001)							

A study of 234 patients' quality of life showed that the most significant impact was on pain/discomfort and anxiety/depression. This was driven by emotional states, which, in a vicious cycle of mutual

reinforcement, worsened the quality of life of patients with combined maxillofacial trauma. In our research, we used a visual analog scale to determine pain intensity in our patients. Based on our research, we believe that pain, as a strong irritant, primarily impacts patients' emotional states, provoking deterioration in their condition and quality of life (see Table 10).

Table 10

VAS scores before treatment (n=234)

groups	Number of patients	1- no pain (0)	2- mild pain (1-3)	3- moderate pain (4–6)	4- very severe pain (7-9)	5- unbearable pain (10)
1	104	0	20	7	0	0
2	130	0	22	33	1	1
total:	234	0	42	40	1	1
Note: the differences between the indicators are statistically significant. (P <0,001)						

Our studies using the VAS scale after treatment for various surgical procedures yielded the following results: after treatment, pain regressed to complete disappearance in all two groups. Mild pain persisted in only two patients in the first group and one patient in the second group, demonstrating the effectiveness of treatment methods with a differentiated approach. Postoperative pain parameters reported by patients are presented in the following table (Table 11).

Table 11

VAS scores after treatment (n=234)

groups	Number of patients	1- no pain (0)	2- mild pain (1-3)	3- moderate pain (4–6)	4- very severe pain (7-9)	5- unbearable pain (10)
1	104	100	2	0	0	0
2	130	131	1	0	0	0
total:	234	231	3	0	0	0
Note: the differences between the indicators are statistically significant. (P <0,001)						

Thus, based on the study, the following conclusions can be drawn: avoidance behavior is quickly reinforced, leading to increased fear, limited physical activity, and other physical and psychological consequences that contribute to disability and the spread of pain. All of the above factors, in turn, contribute to a deterioration in patients' quality of life.

CONCLUSIONS

1. According to the data obtained in our study, a significant proportion of patients with combined maxillofacial trauma were men of working age (184 (78.6%)), which is a pressing issue from both social and economic perspectives.

2. An examination of the somatic status revealed that among 234 patients, 94 (40.2%) had somatic pathology, manifested as arterial hypertension in 30 (31.9%), neurological pathology in 31 (32.9%), and ischemic heart disease in 7 (7.4%) cases. In 7 (7.4%) cases, gastroenterology, ENT organs (7 (7.4%)), endocrinology (7.4%), oncology (3 (3.2%)), ophthalmology (2 (2.1%) patients with liver pathology, and renal failure (1 (1.1%)) were treated.

3. Analysis of the obtained study data in the context of groups with maxillofacial fractures of 234 patients will

look as follows: 456 cases (100%), mandible fractures, 362 (79.4%), zygomatic bone fractures (66 (14.5%), maxilla fractures (16 (3.5%)), and nasal bone fractures (12 (2.6%), which is very relevant.

4. The use of fracture scales and a differentiated approach to treatment of the 234 patients studied had a significant impact on their quality of life, with improvements observed in all groups. The visual analogue scale and its five parameters allow for a more detailed study of pain syndrome, influencing the outcome of treatment.

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