Patients' Chronotype Influence in Treatment Efficiency of Placenta Cryoextract Changes in Maxillofacial Phlegmons

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Among acute odontogenic inflammatory diseases, a significant subset comprises purulent processes in soft tissues, including abscesses and phlegmons. Methods. The study encompassed 90 patients (both male and female) diagnosed with maxillofacial phlegmons, aged between 35 and 60 years. These patients were divided into three clinical groups, each comprising 30 individuals, further categorized into two subgroups based on circadian rhythms. Analyzing the obtained data, it can be asserted that the most significant changes in markers of lipid peroxidation in patients with superficial phlegmons of maxillofacial localization were experienced in both experimental groups when used against the background of treatment according to standard protocols of intravenous injections of the cryopreserved placenta and in combination with local injection of the cryopreserved placenta as part of "Levomekol" ointment, in contrast to the control group. It was proved that the markers of lipid peroxidation underwent the most significant changes in both clinical groups compared to the control group, but the largest changes were visualized in the second clinical group. On the 5th day of treatment, SOD activity reliably increases by 15.7% in patients with the morning chronotype and 14.9% - with the evening chronotype. A significant decrease in erythrocyte catalase activity by 51.5% was noted in patients with the evening chronotype and 56.1% - with the morning chronotype. In the control group, significant changes were noted only in the late stages of treatment. The dependence of lipid peroxidation markers on the timing of surgical intervention on the patient's circadian rhythm was established, which is most clearly observed in the 2nd clinical group. Optimal healing of a purulent wound helps to reduce the duration of treatment, accelerate the rehabilitation of patients, and improve the formation of a postoperative scar.

Conclusion. Thus, aligning the timing of surgical intervention for maxillofacial phlegmons with the patient's circadian rhythm, particularly when combined with intravenous injections and local application of placenta cryoextract alongside standard treatment, contributes to an optimal modulation of lipid peroxidation markers.

Key words: catalase; chronotype; inflammatory disease, maxillofacial phlegmon; superoxide dismutase, inflammatory disease.
Introduction

Among acute odontogenic inflammatory diseases, a notable subset comprises purulent processes in soft tissues, including localized purulent tissue inflammation leading to cavity formation (abscess), as well as diffuse purulent inflammation affecting subcutaneous, intermuscular, and interfascial tissues (phlegmons) [11].

In the development and course of purulent and inflammatory processes of the head and neck, a significant role is played by the concentration of the causative microflora, general and local non-specific and special protective factors, the state of various organs and systems of the body, as well as anatomical and topographical features of the tissues of the maxillofacial region [5, 16].

It is well known that fever, edema, dysphagia, and trismus are the most common symptoms in patients hospitalized for odontogenic infection [6, 16]. Leukocytosis and increase of plasma C-reactive protein have also been shown to be key considerations in the decision to hospitalize patients with odontogenic infection. The combined presence of these symptoms and markers of inflammation is a classic criterion indicating the need for hospitalization for clinical observation and treatment [17].

The prevalence of odontogenic purulent and inflammatory processes of maxillofacial localization remains quite high, despite the rapid development of dental science. It should be noted that odontogenic abscesses and phlegmons of maxillofacial localization can have a rather difficult course and determine the risk of developing local and general complications. The surgical treatment of patients with these conditions is largely consistent and widely practiced. However, the comprehensive medical management of such patients remains under constant and meticulous scrutiny by scientists. The exploration of novel treatment methods for this pathology represents an urgent challenge in modern medicine [11, 17].

The course of inflammatory diseases is significantly influenced by a number of exogenous factors, such as diabetes mellitus, diseases of the cardiovascular system, etc [6, 12, 19]. One of the factors that have a significant impact on the physiological and reparative processes of the body is circadian rhythms, which are caused by the presence of central and peripheral circadian clocks in the human body. It has been established that the chronotypical characteristics of a person affect the life expectancy and the development of diseases [2, 20].

Circadian rhythms are a cyclical fluctuation of the intensity of various biological processes associated with the change of day and night, the most famous of which is the "sleep-wake" rhythm [3]. The circadian system does not depend only on the activity of circadian central and peripheral clocks. Efficient operation of the system involves the synchronization of internal clocks with stimulation of the environment [9]. Violation of the coordination of these internal and external processes contributes to the disruption of the circadian rhythm, which, in turn, can lead to a violation of glucose content, lipid regulation, and cholesterol level, which can lead to various diseases, including atherosclerosis [8]. Accurate determination of the patient's chronotype can predict the dynamic course of different types of diseases and reparative regeneration [10, 13].

Materials and methods

The study involved 90 patients (both males and females) diagnosed with maxillofacial phlegmons, aged between 35 and 60 years, receiving inpatient care at the Maxillofacial Surgery Department of the Poltava Regional Clinical Hospital, Ukraine. All patients were divided into 3 clinical groups, each comprising 30 individuals, further segmented into two subgroups based on their circadian rhythms. Group 1 consisted of patients who received standard therapy along with intravenous injections of cryopreserved placenta. Group 2 comprised patients who received a combination of intravenous injections of cryopreserved placenta and local administration of this drug within "Levomekol" ointment, in addition to standard therapy. Group 3 (control) included patients who received medical care following the standard protocol.

Patients with a definite morning and a definite evening chronotype were determined according to the Horne-Ostberg questionnaire and were selected for the group [6, 14]. Patients with morning chronotypes were applied to the 1st subgroup, and patients with evening chronotypes – the 2nd subgroup (15 persons in each subgroup). Patients in each subgroup underwent surgical treatment depending on the time of hospitalization (morning (8 persons in every subgroup)) or evening (7 patients in every subgroup)).

Blood serum for biochemical investigations was taken from patients in the morning on an empty stomach on the 1st, 3rd, 5th, and 7th day after hospitalization to the maxillofacial departments. Markers of lipid peroxidation were studied: the activity of superoxide dismutase and catalase enzymes of erythrocytes, which characterize the level of antioxidant protection.

Determination of superoxide dismutase enzyme activity (SOD). The activity of SOD was determined according to a standard method, the principle of
which is based on the ability of SOD to compete with nitroblue tetrazolium for superoxide anions, which are formed as a result of the aerobic interaction of the reduced form of nicotinamide adenine nucleotide with phenazine metasulphate [23].

The activity of the antioxidant protection enzyme catalase was determined by the method based on the ability of hydrogen peroxide to form a stable colored complex with ammonium molybdate, the intensity of which is inversely proportional to the activity of catalase in the investigated substrate [7].

The research results were processed by the method of variational statistics on a personal computer with the determination of the reliability of the differences between the values of the studied indicators, as well as by the correlation method using the Statistica software package and Excel 2010 spreadsheets. The level of significance was defined as \( p<0.05 \).

**Results**

When analyzing the activity of the antioxidant protection enzyme superoxide dismutase in patients with superficial phlegmons of maxillofacial localization on the first day of observation, there was no significant difference in this indicator for both experimental and control groups, which is due to the fact that the study was conducted at the time of hospitalization of the patients before the surgical and drug treatment (Table 1).

### Table 1

<table>
<thead>
<tr>
<th>Observation groups</th>
<th>1st day</th>
<th>3rd day</th>
<th>5th day</th>
<th>7th day</th>
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<tbody>
<tr>
<td>1st group</td>
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<tr>
<td>1st sub-group</td>
<td>1a (n=8)</td>
<td>18.13±0.93</td>
<td>19.50±0.91</td>
<td>23.13±0.61 *</td>
</tr>
<tr>
<td>1b (n=7)</td>
<td>17.57±1.07</td>
<td>19.29±0.89</td>
<td>22.86±0.55 *</td>
<td>26.29±0.81</td>
</tr>
</tbody>
</table>

| 2nd sub-group      | 2a (n=8)| 17.75±0.88 | 19.25±0.73 | 22.63±0.68 * | 26.63±0.80 * |
| 2b (n=7)           | 18.00±0.82 | 19.14±0.74 | 23.43±0.84 * | 27.86±0.51 *** |

| 2nd group          |         |         |         |         |
| 1st sub-group      | 1a (n=8)| 17.75±0.94 | 19.25±1.03 | 24.88±0.48 *** | 28.75±0.59 *** |
| 1b (n=7)           | 17.86±0.96 | 19.14±0.67 | 22.9±0.57 *** | 26.14±0.46 *** |

| 2nd sub-group      | 2a (n=8)| 17.50±1.02 | 19.13±0.67 | 22.75±0.88 * | 26.63±0.65 * |
| 2b (n=7)           | 18.14±0.88 | 19.43±0.95 | 24.14±0.67 * | 29.14±0.55 *** |

| Control group      |         |         |         |         |
| 1st sub-group      | 1a (n=8)| 17.86±0.81 | 19.13±0.83 | 22.63±0.65 * | 25.38±0.46 * |
| 1b (n=7)           | 18.00±0.93 | 19.43±0.9 | 21.71±0.65 | 24.57±0.61 * |

| 2nd sub-group      | 2a (n=8)| 17.50±0.86 | 19.25±1.13 | 21.88±0.77 | 24.86±0.69 * |
| 2b (n=7)           | 17.86±0.83 | 19.43±1.17 | 22.71±0.81 * | 25.14±0.59 * |

Notes: * \( p<0.05 \) relative to the previous observation period; ** \( p<0.05 \) relative to the control for the same period of observation; *** \( p<0.05 \) when comparing within one subgroup.

On the 3rd day of observation, there was no significant difference in the activity of superoxide dismutase in patients in all studied groups.

Only on the 5th day of treatment, there was a significant increase of SOD activity in patients who, against the background of standard treatment, underwent intravenous administration of the cryopreserved placenta in patients of the morning chronotype, under the conditions of surgical intervention and dressings in the morning and in the evening on the 15th. 7% and 15.6%, respectively, as well as for patients of the evening chronotype at the same time of surgical interventions, 14.9% and 18.3%, respectively.

As can be seen from the data in the table, in the second research group, under the conditions of combination of standard therapy with combination of intravenous injections of cryopreserved placenta and local administration of cryopreserved placenta in the composition of "Levomekol" ointment, a probable increase in SOD activity was also noted compared to the previous period of the study by 22, 6%, 14.1%, 15.9% and 19.5% for all subgroups, respectively. At the same time, the correlation of the studied indicator with the correspondence of the time of surgical treatment to the patient's circadian rhythm was observed, which was manifested in the form of a significant increase in the activity of superoxide dismutase by 11.6% in patients of the morning chronotype during surgical intervention and the correlation of the morning with respect to the subgroup with the evening time of data collection procedures.

In the control group at this stage of the study, the dependence of SOD activity on the circadian rhythms of the patients was noted, which was characterized by a probable increase in it only in the subgroups of patients of the morning chronotype, operated on in the morning and the evening chronotype, in which the opening of the phlegmon was carried out in the evening, by 15.5% and 14.4% respectively.

At the last follow-up period, in patients whose standard phlegmon treatment was supplemented with intravenous injections of the cryopreserved placenta, a probable increase in this indicator was noted in all four subgroups by 16.6%, 13.0%, 15.0% and 15. 9% respectively.

In addition, a probable increase in the activity of the studied enzyme relative to the control was
observed for the same study period in patients of the morning chronotype who were operated on in the morning and in patients of the evening chronotype who were operated on in the evening by 9.3% and 10.8%, respectively, which characterized the dependence of superoxide dismutase enzyme activity on the timing of surgical treatment for phlegmon and dressings on circadian rhythms.

On the 7th day of treatment of patients with superficial phlegmons of maxillofacial localization under the conditions of using intravenous injections of cryopreserved placenta in combination with local administration of cryopreserved placenta in the composition of "Levomekol" ointment against the background of the standard treatment protocol, the activity of SOD experienced a probable increase in all four subgroups by 13.5%, 14.7%, 14.6% and 17.2% for 1a, 1b, 2a and 2b subgroups, respectively. This indicator was significantly higher compared to the data of the control group by 13.3% and 15.9% under the conditions of compliance of the time of treatment with the circadian rhythm, namely in patients of the morning chronotype who were operated on in the morning and evening chronotype when phlegmon was opened in the evening.

Also, at this period of observation, a probable difference of the studied indicator was noted within the subgroups of the morning and evening chronotype. The activity of superoxide dismutase in patients with the morning chronotype was 10.0% higher in those who were operated on in the morning compared to those operated on in the evening. For patients of the evening chronotype, the opposite pattern was characteristic: a significant decrease in SOD activity by 8.6% in patients operated on in the morning compared to those operated on in the evening.

In the control group, at this stage of observation, an increase in the activity of SOD compared to the previous period of the study was noted in all four subgroups by 10.8%, 11.6%, 11.0%, and 9.7%, respectively, for subgroups 1a, 1b, 2a, and 2b. At the same time, the dependence of superoxide dismutase activity on the compliance of the surgical intervention time with the circadian rhythm was not noted.

One of the markers of lipid peroxidation that was studied was the activity of the catalase enzyme. At the time of hospitalization of patients with superficial phlegmons of maxillofacial localization until the time of treatment, the catalase activity of erythrocytes in both experimental and control groups did not undergo probable changes, which correlated with the results of other studied indicators and data of clinical studies (Table 2).

<table>
<thead>
<tr>
<th>Observation groups</th>
<th>1st day</th>
<th>3rd day</th>
<th>5th day</th>
<th>7th day</th>
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<tr>
<td><strong>1st group</strong></td>
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<tr>
<td>1st subgroup</td>
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<tr>
<td>1a (n=8)</td>
<td>365.1±5.11</td>
<td>173.9±3.60 *</td>
<td>260.9±3.91 *</td>
<td>348.6±5.47 *</td>
</tr>
<tr>
<td>1b (n=7)</td>
<td>362.1±5.14</td>
<td>156.9±3.10 ***</td>
<td>242.1±3.65 ****</td>
<td>338.4±5.63 *</td>
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<tr>
<td>2nd subgroup</td>
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<tr>
<td>2a (n=8)</td>
<td>366.3±5.99</td>
<td>158.3±3.57 *</td>
<td>243.8±3.70 *</td>
<td>343.8±4.30 *</td>
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<td>367.1±5.04</td>
<td>174.6±2.42 ***</td>
<td>262.1±3.85 ****</td>
<td>349.1±4.44 *</td>
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<td>1st subgroup</td>
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<tr>
<td>1a (n=8)</td>
<td>369.6±5.44</td>
<td>177.8±3.90 *</td>
<td>277.3±3.47 ****</td>
<td>354.3±4.70 **</td>
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<tr>
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<td>365.9±4.76</td>
<td>161.1±2.60 ***</td>
<td>253.7±3.91 ****</td>
<td>350.4±3.53 *</td>
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<td>2nd subgroup</td>
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<tr>
<td>2a (n=8)</td>
<td>363.5±4.05</td>
<td>159.5±3.66 *</td>
<td>252.6±3.34 ***</td>
<td>349.3±4.67 *</td>
</tr>
<tr>
<td>2b (n=7)</td>
<td>368.1±3.69</td>
<td>177.6±2.84 *</td>
<td>276.6±3.75 *** ****</td>
<td>355.4±4.13 *</td>
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<tr>
<td><strong>Control group</strong></td>
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<td>1st subgroup</td>
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<tr>
<td>1a (n=8)</td>
<td>366.9±5.09</td>
<td>164.6±3.52 *</td>
<td>251.8±3.27 *</td>
<td>356.5±3.44 ****</td>
</tr>
<tr>
<td>1b (n=7)</td>
<td>367.9±4.93</td>
<td>154.6±2.45 ***</td>
<td>237.9±2.26 ***</td>
<td>334.7±4.00 ****</td>
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<td>2nd subgroup</td>
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<tr>
<td>2a (n=8)</td>
<td>364.8±3.70</td>
<td>156.5±2.64 *</td>
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<td>332.3±3.14 ****</td>
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<tr>
<td>2b (n=7)</td>
<td>365.9±3.94</td>
<td>169.6±2.87 ***</td>
<td>253.1±3.05 ****</td>
<td>338.4±3.29 ****</td>
</tr>
</tbody>
</table>

Notes: * p<0.05 relative to the previous observation period; ** p<0.05 relative to the same period of observation; *** p<0.05 when comparing within one subgroup; **** p<0.05 relative to 1st research group; ***** p<0.05 relative to the original data.

On the third day of observation, the catalase activity of erythrocytes underwent a sharp decline in all three groups. Under the conditions of a combination of standard treatment with intravenous injections of the drug cryopreserved placenta, catalase activity was significantly reduced by 52.7%, 56.7%, 56.8%, and 52.4%, respectively, for the four subgroups.

Among them, the dependence of catalase activity on the timing of the surgical intervention and the connection to the patient's circadian rhythms were noted. Thus, in patients with the morning chronotype who underwent surgical treatment in the morning, the level of this indicator was significantly higher by 10.8% compared to patients operated on in the evening.

Similar changes in the catalase activity of erythrocytes were observed in patients of the evening chronotype, namely, a significant increase in its activity by 10.3% under the conditions of compliance at the time of the surgical intervention with the patient's circadian rhythm. We did not observe a
probable difference in the studied indicator relative to the data of the control group.

In patients with superficial odontogenic phlegmons of the maxillofacial localization, who, against the background of a standard treatment protocol, received intravenous injections of the drug cryopreserved placenta in combination with local administration of cryopreserved placenta as part of the "Levomekol" ointment, changes in the catalase activity of erythrocytes underwent similar changes. A significant decrease of the studied indicator by 51.9%, 56.0%, 56.1%, and 51.6% relative to the previous observation period was noted for the 1a, 1b, 2a, and 2b subgroups, respectively.

According to the results of the study, there was a dependence on the timing of the surgical treatment and the dressing of the patients on their circadian rhythms. For patients of the morning chronotype, under conditions of compliance at the time of surgical intervention with the patient's circadian rhythms, catalase activity was significantly higher by 10.4% compared to patients operated on in the evening. There was no significant difference in the studied indicator relative to the results of the control group during this observation period.

In patients who underwent standard treatment of superficial phlegmon of maxillofacial localization (control group), catalase activity also experienced a significant decrease relative to the first day of the study in all four subgroups by 55.1%, 58.0%, 57.1%, and 53.6% respectively.

In this group, the dependence of catalase activity on the compliance of the treatment time with the patient's circadian rhythms was also noted. In patients of the morning chronotype, who were operated on in the morning, catalase activity was probably higher by 6.5% compared to the subgroup of patients operated on in the evening. Similar changes in the studied indicator at this stage of treatment were noted, including in patients of the evening chronotype, which was manifested by a significant increase in the activity of erythrocyte catalase by 8.4% under the conditions of compliance with the timing of the operation to open the superficial phlegmon of the maxillofacial localization with the circadian rhythm (conducting surgical intervention and dressing in the evening).

On the 5th day after surgical intervention for superficial phlegmon of maxillofacial localization, the tendency to increase the catalase activity of erythrocytes occurred in both experimental and control groups.

In the patients of the first research group, an increase in catalase activity was noted in all four subgroups relative to the previous study period by 50.0%, 54.3%, 54.0%, and 50.1%, respectively.

In addition, catalase activity underwent significant changes depending on the time of surgical intervention. In patients of the morning chronotype, who underwent surgery and dressings in the morning, the catalase activity of erythrocytes was 7.8% higher than in patients who were operated on in the evening. For patients of the evening chronotype, the dependence of catalase activity on the compliance of the time of surgical intervention with circadian rhythms was also noted, namely, the activity of this indicator was significantly higher by 7.5% under the conditions of phlegmon opening and dressings performed in the evening.

In the patients of the second experimental group, on the 5th day of observation, a significant increase in the activity of catalase of erythrocytes compared to the previous period of the study was noted in all subgroups by 56.0%, 57.5%, 58.4%, and 55.7%, respectively. Under the conditions of using intravenous injections of the cryopreserved placenta in combination with the local injection of cryopreserved placenta as part of the ointment "Levomekol" against the background of standard treatment in patients of the morning and evening chronotype, under the conditions of compliance of the time of the surgical intervention with the circadian rhythm of the patients, a significant increase in activity was observed catalase by 9.3% and 9.5%, respectively.

We also noted a probable increase of the studied indicator relative to a similar period of observation in the control group by 10.3% in patients of the morning chronotype who were operated on in the morning, as well as by 6.3% and 9.3% for patients of the evening chronotype, in whom the opening of phlegmon maxillofacial localization was performed in the morning and in the evening, respectively.

In patients with superficial maxillofacial phlegmons who underwent standard treatment (control group) on the 5th day after surgery, a significant increase in erythrocyte catalase activity was noted by 53.0%, 53.9%, 51.8%, and 49.2%, respectively, for 1a, 1b, 2a and 2b subgroups.

There was also a dependence of the activity of the studied enzyme on the correspondence of the circadian rhythm at the time of the surgical intervention. In patients of the morning chronotype, the activity of erythrocyte catalase was 6.2% higher in persons operated on in the morning, and in patients of the evening chronotype, an increase in this indicator was noted by 6.5% in persons who underwent surgery in the evening relative to the subgroup in which surgical treatment was held in the morning.

On the 7th day of observation, the catalase activity of erythrocytes continued to increase and approached the initial data in all three groups.
One week after the phlegmon opening operation in patients whose standard treatment was accompanied by intravenous injections of the cryopreserved placenta, erythrocyte catalase activity increased by 33.6%, 39.8%, 31.2%, and 33% compared to the previous period of the study respectively for 1a, 1b, 2a, and 2b subgroups and had no significant difference when compared with the original data. Dependence of catalase activity on the circadian rhythm was not noted for this period of observation, nor was there a significant difference in the studied indicator with respect to the data of the control group for the same period of observation.

Under the conditions of applying intravenous injections of the cryopreserved placenta in combination with local administration of cryopreserved placenta as part of "Levomekol" ointment against the background of standard therapy of surface phlegmons of maxillofacial localization, an increase in the activity of catalase of erythrocytes was also noted for all four subgroups by 27.8%, 38.1%, 26.2%, and 28.5%, respectively. The content of this indicator in all studied subgroups had no significant difference when compared with the initial level of enzyme activity.

Furthermore, no influence of the timing of surgical interventions on circadian rhythms was observed at this stage of the study. Only in patients of the morning chronotype, who were operated on in the morning, there was a probable increase in catalase activity of erythrocytes by 5.6% relative to the similar subgroup in the control.

In the control group, similarly to the two experimental groups, there was a tendency for catalase activity to increase in all subgroups by 33.3%, 40.7%, 39.9%, and 33.7%, respectively, for subgroups 1a, 1b, 2a, and 2b. At the moment, after opening the phlegmons, no dependence of the activity of the studied enzyme on the compliance of the time of the surgical intervention with the patient's circadian rhythms was noted. However, in the control group, on the 7th day after surgical treatment, catalase activity was still lower than the initial level by 8.5%, 9.0%, 8.9%, and 7.5%, respectively, for the four subgroups.

Discussion

Thus, analyzing the obtained data, it can be asserted that the most significant changes in markers of lipid peroxidation in patients with superficial phlegmons of maxillofacial localization were experienced in both experimental groups when used against the background of treatment according to standard protocols of intravenous injections of the cryopreserved placenta without and in combination with local injection of cryopreserved placenta as part of "Levomekol" ointment, in contrast to the control group. Significant changes in the studied indicators in the control were noted only at later periods of treatment of patients with these diseases.

It is worth noting that people with an evening chronotype are more prone to the development of inconsistency of circadian clocks with the development of negative health consequences. The compliance of the time of surgical intervention with the circadian rhythm has a positive effect on the processes of reparative regeneration and the background of purulent inflammatory processes [9]. It should also be noted the dependence of markers of lipid peroxidation on the compliance of the time of opening superficial phlegmons of maxillofacial localization with the circadian rhythms of patients, was more clearly observed in both experimental groups [2, 22-23].

It was proved that the markers of lipid peroxidation underwent the most significant changes in both clinical groups compared to the control group, but the largest changes were visualized in the second clinical group. On the 5th day of treatment, SOD activity reliably increases by 15.7% in patients with the morning chronotype and 14.9% - with the evening chronotype. A significant decrease in erythrocyte catalase activity by 51.5% was noted in patients with the evening chronotype and 56.1% - with the morning chronotype. In the control group, significant changes were noted only in the late stages of treatment. The dependence of lipid peroxidation markers on the timing of surgical intervention on the patient's circadian rhythm was established, which is most clearly observed in the 2nd clinical group. Optimal healing of a purulent wound helps to reduce the duration of treatment, accelerate the rehabilitation of patients, and improve the formation of a postoperative scar [1, 18, 22].

Conclusion

Thus, the compliance of time of surgical intervention of maxillofacial phlegmons with the patient's circadian rhythm in case of combined treatment using intravenous injections and the local application of placenta cryoextract on the background of standard treatment makes the optimal dynamic of markers of lipid peroxidation.

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Conflict of Interest
The authors declare that there is no conflict of interest.

Ethical approval
The study received ethical approval (m...
ВПЛИВ ХРОНОТИПУ ПАЦІЄНТІВ НА ЕФЕКТИВНІСТЬ ЛІКУВАННЯ КРИЕКСТРАКТОМ ПЛАЦЕНТИ ПРИ ФЛЕГМОНАХ ЩЕЛПНО-ЛИЦЕВОЇ ЛОКАЛІЗАЦІЇ

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Серед гострих одонтогенних запальних захворювань значну групу становлять гнійні процеси в м'яких тканинах, такі як абсцесс та флегмона.

Методи. Було обстежено 90 пацієнтів з флегмонами щелепно-лицевої локалізації віком 35-60 років. Усі пацієнти були розподілені на 3 клінічні групи по 30 осіб у кожній, які були поділені на 2 підгрупи (за добовими ритмами).

Аналізуючи отримані дані, можна стверджувати, що найбільш суттєві зміни маркерів перекисного окислення ліпідів у пацієнтів з поверхневими флегмонами щелепно-лицевої локалізації спостерігалися в обох дослідних групах при застосуванні внутрішньовенного введення кріоконсерванту. Плаценти без та в поєднанні з місцевим введенням кріоконсервованої плаценти у складі мазі «Левомеколь» на тлі лікування за стандартними протоколами, на відміну від контрольної групи. Доведено, що маркери перекисного окислення ліпідів зазнали найбільш суттєвих змін в обох клінічних групах порівняно з контрольною групою, але найбільші зміни візуалізувалися у другій клінічній групі. На 5-ту добу лікування активність СОД достовірно підвищується на 15,7 % у хворих ранкового хронотипу та на 14,9% — вечірнього. Достовірне зниження активності каталази еритроцитів на 51,5 % відзначено у хворих вечірнього хронотипу та на 56,1% — ранкового. У контрольній групі істотні зміни відзначалися лише на пізніх термінах лікування. Встановлено залежність маркерів перекисного окислення ліпідів від терміну операційного втручання від добового ритму хворого, що найбільш чітко проявляється у 2-й клінічній групі. Оптимальне загоєння гнійної рані сприяє скорочення термінів лікування, прискорення реабілітації пацієнтів, покращенню формування післяопераційного рубця.

Висновок. Таким чином, відповідність термінів операційного втручання з приводу флегмон щелепно-лицевої локалізації добовому ритму пацієнта при комбінованому лікуванні внутрішньовенними ін'єкціями та місцевим застосуванням кріоконсервата плаценти на тлі стандартного лікування забезпечує оптимальну динаміку маркерів перекисного окислення ліпідів.

Ключові слова: каталаза; хронотип; запальне захворювання, флегмона щелепно-лицевої локалізації; супероксиддисмутаза, запальне захворювання.