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Dynamics of humoral immunity, against - and pro-inflammatory cytokine at patients with the combined maxilla-facial injuries with a serious condition.  
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**Key words:** *medicine, trauma, maxilla-facial surgery, immunology*

**Annotation:** *The article contain, of result of investigation, of patents with combined maxilla-facial injuries. Results shown, that in posttraumatic period in patients developed deep dysfunctional humoral immunity.*

The Combined maxilla-facial Injury (CMFI) belongs to one of difficult types of injuries. In the post-traumatic period develops the traumatic illness which is accompanied with disfunction of metabolic processes and biomolecular algorithms[1,2,3]. Along with disfunction of neuroendocrine mechanisms, it is disorder of protection and resistance of an organism: detoxication, immunity, adequate humoral bioregulation. Studying change of immunological indicators at a trauma in dynamics is perspective[4,5]. Need of studying of humoral mechanisms of damage of immunity which gives an idea about deep violations of immunity is obvious. Above stated was the basis of studying of humoral factors of immunity at patients with CMFI with heavy the general a state.

It was surveyed 19 patients with CMFI with heavy the general a state. Their age were from 19 to 47, from them mens 12, women 7. At 9 patients with the cause of a trauma was an traffic incident, at 8 high-rise trauma, at 2 sports trauma. Multiple fractures of face bones noted at 11 patients, a maxillar fracture at 5, a trauma of upper zone of face at 2 patients. All patients arrived in an emergency in the 2nd clinic of the Tashkent medical academy. Control group was 21 health people of similar age. We studied at these patients level of immunoglobulins, against - and pro-inflammatory cytokine in blood serum in dynamics for the 1-3rd, 7th, 14th, 21st days from the moment of receiving a trauma.

Results of research. Concentration of Immunoglobulins (I,M,G) at patients in dynamics was statistically authentically lower in comparison with data of group of control for the 7th 14th days. Further the low content of immunoglobulins remained at patients throughout the entire period of supervision (tabl.1)

Indicators of humoral immunity and cytokine at patients with CMFI with a serious condition in dynamics

Table 1

Indicator s	Control group	n=19			
		At receipt	7 day, n=19	14 day, n=18	21 day, n=17
Ig M g/l	1,07±0,0 4	1,12±0,03	0,91±0,06* <sup>ooo</sup>	0,85±0,05*** <sup>ooo</sup>	0,93±0,05* <sup>ooo</sup>
Ig G g/l	10,6±0,3 7	11,3±0,32	9,1±0,57* <sup>ooo</sup>	8,3±0,35*** <sup>ooo</sup>	8,9±0,55* <sup>ooo</sup>
Ig A g/l	1,70±0,0 7	1,63±0,05	1,36±0,06***	1,31±0,06***	1,37±0,08**
IL 10 pg/ml	23,3±0,8 6	17,0±0,69** *	12,8±0,92***	13,3±0,93***	17,8±1,29** <sup>^^^o'</sup> ,
IL 6 pg/ml	31,8±0,7 9	53,8±1,74** *	90,0±3,32*** <sup>oo</sup> o	64,3±5,72*** <sup>^^</sup> ^	56,8±8,35** <sup>^^^</sup>

Note: \* - distinctions relatively data of control group are significant (\* -  $P<0,05$ , \*\* -  $P<0,01$  \*\*\* -  $0,001$ ), ° - distinctions relatively group data at receipt are significant (° -  $P<0,05$ , °° -  $P<0,01$ , °°° -  $0,001$ ), ^ - distinctions rather this are significant the 7th days (^ -  $P<0,05$ , ^^ -  $P<0,01$ , ^^ -  $0,001$ ), ' - distinctions rather this are significant the 14th days (' -  $P<0,05$ , '' -  $P<0,01$ ''' -  $0,001$ )

The level of IL-10 at patients for 7 and 14th day was low in comparison with indicators of 21 days of treatment ( $P<0,05$ ). For 21 days of inspection concentration of IL-10 in blood authentically increased, however, below indicators of control groups ( $P<0,001$ ). The indicator of IL-6 at these patients for the 7th day sharply increased (by 2,8 times) in comparison by control group and by 1,2 times before treatment. For 21 days noted decrease in this indicator, however IL-6 wasn't normalized.

Thus, the analysis of humoral immunity at patients with CMFI shows that is observed violations in the humoral immune status. The trauma, stress have more expressed immunosuppressive impact to the loudspeaker of the post-traumatic period. In the post-traumatic period there is a system of self-control of balance about - and anti-inflammatory cytokine. Various complications can influence the contents cytokine in post-traumatic period.

For example, the increase in concentration of IL-6 and decrease in IL-10 in blood can be a diagnostic sign of pathological changes in an organism of the patient. At sick 25-30% of cases with CMFI with a serious condition the 3-5-fold increase in the IL-6 level in blood is observed, and the quantity of IL-10 had authentically low serumal concentration. At these patients in purulent complications (suppuration of a bone wound, n=1, osteomyelitis of jaws, n=2, abscess of soft tissue, n=1) were observed.

Naturally, traditional therapy and reduction of inflammatory process, immunological shift have positively the return dynamics, however, don't reach the normal indicators inherent in healthy, before an extract from a hospital. This circumstance dictates need to a correction of immune system by means of preparations raising protective forces of an organism.

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