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Clinical Course in Patients with Acetic Acid Poisoning and the Relationship with Systemic Inflammatory Reaction

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ABSTRACT

One of the most common types of domestic exogenous poisoning with substances of cauterizing action are acute poisoning with acids and alkalis. According to statistics from specialized poisoning treatment centers, on average 69.6% of all patients hospitalized with poisoning with cauterizing substances were victims of poisoning with concentrated acetic acid (Orlov Yu.P., Vasiliev S.A. 2016).

It is also important that VPD poisoning is characterized by severe medical, social and economic consequences such as: costly treatment, prolonged disability, disability, high mortality. Poisoning with toxicants of cauterizing action is characterized by high lethality. This is especially true of acetic acid, which averaged 11.7%, respectively, reaching 30.6% in a number of hospitals, and among the deaths caused by caustic poisons, acetic acid was 72.0%. The toxicity of acetic acid is directly proportional to its concentration in the body. 30-70% solution, called acetic essence in everyday life, causes a severe chemical burn (Orlov Yu. P., Vasiliev. S. A. 2016).

According to the results of the work carried out, warning indicators were found in the laboratory, there is all the information to say that with severe intoxication with acetic acid, there is a CVD and an increased likelihood of aggravation.

The criteria for the condition in the first minutes were established by indicators of intoxication of the criminal code with a decrease in circulatory volume and shock state against the background of pain of chemical burns.

The clinical picture of UK poisoning at the admission of patients was also characterized by manifestations of CVD.

During the study, all patients with poisoning of the criminal code and its derivatives were grouped as follows:

Group I – CD and CVD treatment without complications – 33 people.

Group II – observation of symptoms of pneumonia and other complications of moderate severity – 79 people.

Group III – patients whose treatment and course of the disease took place with inflammatory complications in the form of pneumonia, sepsis, PON with a fatal outcome (n=14).

All persons with acetic acid intoxication have a heart rate of 102, 94,120 per minute, BHD 32, 27, 37 t-bodies 39C white blood cell level 18.5, 15, 21 x 109 / l, pCO2 33.2 35.6 mmHg. Clinic severity of acetic acid intoxication was expressed by CNS dysfunction expressed by loss of consciousness up to the state comas [1.3.5.7.9.11.13.15.17.19].

As can be seen from the data presented in Figure 3.4, in patients of group I - in whom the course of the disease passed without complications and in recovered patients of group II – in whom the course of the disease passed with inflammatory complications in the form of pneumonia against the background of complex therapy, a gradual restoration of the level of consciousness was observed from 6 (5;6) points at admission to 12 (11;13) - 13 (12;13) points to 5 days after acute poisoning with acetic acid. In patients of group III – in whom the course of the disease passed with inflammatory complications in the form of pneumonia, sepsis, PON with a fatal outcome, the depth of disturbed consciousness decreased from level 5 (4;6) to level 4 (3;4) - points during 5 days of observation.

Symptoms of a gerenalized inflammatory process according to the classification of R. Bone in persons with intoxication of the criminal code always take place. Also, a state of general insufficiency of all systems develops and its aggravation with the preservation of the clinic throughout the disease.

In the presented table data, it is noted that on day 5 in the group of patients in whom the treatment and course of the disease took place without complications, the number of signs of CVD decreased from 2 (0;2) to 1 (0;2), and in the group of patients in whom the treatment and course of the disease took place with inflammatory complications in the form of pneumonia remained at the same level 2 (0;2), while in the group of patients whose treatment and course of the disease took place with inflammatory complications in the form of pneumonia, sepsis, PON with a fatal outcome, the number of signs of a systemic inflammatory reaction was at a high level during the entire follow-up period - 3 (2;4).

Analysis of the degree of organ dysfunction in patients of group I and group II showed that by the 5th day it decreased from 6 to 4, and in group III of patients with a fatal outcome there was an increase from 11 to 14 and significantly differed from the indicators of organ dysfunction of the first two groups of patients who recovered at different treatment periods. Also, in the III group of patients with a fatal outcome, an increase in the level of multiple organ failure was observed and this indicated the development of a systemic inflammatory reaction syndrome.

Not paying attention to the separation of the indicators of CVD (Bone R.C. et al., 1992) does not have increased accuracy and adaptation, we summed up that their use in clinical practice in patients with poisoning of the criminal code, allows predicting the development of complications, pneumonia, sepsis, multiple organ failure, which can cause uncontrolled the development of generalized inflammation and its proper prevention with the use of NSAIDs, correctors of protective systems, etc. Since some indicators like heart rate and BPD are common, we need more narrow methods for detecting this condition [2.4.6.8.10.12.14.16.18.20].

The results of the study revealed that patients with poisoning of the criminal code are characterized by a marked decrease in total peripheral vascular resistance (OPSS), shock index (CI) and central venous pressure (CVD) against the background of an increase in average blood pressure (ADsr) and heart rate (HR). The hypodynamic variant of blood circulation prevailed, due to the loss of a significant part of the BCC. Dynamic indicators of hemodynamics three days after the start of treatment in patients with poisoning of the criminal code, revealed the same data with the indicators of the first day: in particular, the indicators of OPSS, heart rate and ADsr.

The study of hemodynamic parameters showed that five days after the poisoning of the criminal code, the trend towards normalization of indicators continued, while in all patients with poisoning of the criminal code, the tendency to tachycardia and hypertension persisted. the highest heart rate, heart rate and blood pressure and the lowest MI, cardiac index (SI) and CVD were recorded.

Conclusion. In acute poisoning with acetic acid on the first day after hospitalization, there is a significant increase in the blood plasma content of markers of systemic inflammatory reaction: IL-6, IL-10, procalcitonin. The content of IL-10 in the group of patients, in recovered patients – the course of the disease in which was complicated by pneumonia, exceeded normal values in healthy patients by 12.3 times (66 (54;82) pg/ml), and in the group of recovered patients – the course of the disease in which was complicated by pneumonia, sepsis. multiple organ failure resulted in a fatal outcome of 54.2 times (271 (94;391) pg/ml) in the group of patients who had quarreled without complications by 4.1 times (22 (10; 44) pg/ml). Upon admission, the IL-6 content was 32.2 (161 (99; 209) pg/ml) high in the group of patients with pneumonia, 65 times (325 (173; 516) pg/ml) in the group of patients with pneumonia, sepsis and death, 12.4 times (62 (42;91) pg/ml) in the group of recovered patients without complications. We concluded that an increase in the concentrations of IL-6 and IL-10 in the blood serum of patients with UK poisoning upon admission and up to 5 days of follow-up is an important evidence of the development of systemic inflammation.

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