**Objective.** Generalization of international and domestic experience in clinical diagnosis and treatment of acute intoxication syndromes caused by herbal smoking mixtures (synthetic cannabinoids) poisonings, including smoking mixtures «Spice».

**Material and methods**

The materials of the research conducted in the EU and Eastern Europe on diagnosis and treatment of synthetic cannabinoids poisonings; the directives of the Ukrainian Government on these issues; operational data of specialized toxicological departments in Kyiv and Mykolaiv were studied.

**Result and discussion**

Expanding practice of using herbal smoking mixtures (so called Spice) has led to numerous fatal intoxications in Ukraine. A new type of psychoactive substances caused serious difficulties for doctors in conducting clinical and laboratory diagnostics and treatment of patients. Clinical picture of acute intoxications by Spice products differs from that one of heroin and marijuana intoxications greatly, and chemical composition of products is changing continuously, virtually preventing their timely determination in biological fluids. Nowadays, medical care of such intoxications is provided in Ukraine not only by specialized toxicology departments in Kyiv and Mykolaiv, but also by intensive care departments in 16 emergency hospitals in different regions of Ukraine. The problem of early diagnostics of intoxications by smoking mixtures is caused by polymorphism of clinical picture requiring differentiation from acute psychiatric disorders, infective and non-infective diseases of the central nervous system, cerebral injury, and abstinent conditions of different genesis. Complex of pathological symptoms directly depends on the composition of toxic substances in each particular Spice product lot.

According to Kyiv Toxicology Centre, dozens of patients are admitted annually to the department due to acute intoxications by smoking mixtures, that constitutes about 1% in the structure of all intoxications. The age of male patients was within 18 to 39. Basic pathological syndromes registered in patients intoxicated by Spice products included syndromes of excitation, depression, hallucinatory and mixed syndromes. Syndrome of excitation manifested itself in eye redness, contraction of pupils (with inhibited photoreaction); hypertension; tachycardia; dry mouth; anxiety, excitation, disorientation, sweeping movements; unnatural poses. Syndrome of depression has manifested itself as suppression of the general condition of a patient; fixed gaze; pale skin; general muscle weakness; retarded movements; dizziness; inhibited photoreaction of pupils; mental inhibition (often up to complete loss of productive contact); disorientation and feeling of fear. Characteristic of the syndrome of depression was also reduced facial and speech muscle tone accompanied by speech disorder, inability to pronounce a patient’s own name clearly, to clarify the circumstances of intoxication. Haemodynamic disorders in the syndrome of depression have manifested themselves as tachycardia; lowering blood pressure; palpitations. Hallucinatory syndrome has manifested itself as disorientation; spontaneous laughter; talkativeness and mood swings; delusions; inadequate assessment of the situation. Mixed syndrome has manifested itself as excitation and depression phase change. Typical manifestations of fatal intoxication included the following: toxic coma, cerebral oedema, seizures, respiratory and cardiovascular failure. Obviously, clinical manifestations depended on the composition of toxic substances in each particular Spice product lot; this explains the fact that patients are admitted to the departments with similar symptoms for several days. When collecting the history of intoxication patients often mentioned the specific point of product sale. Depending on the degree of narcotic intoxication, clinical symptoms last from two to six hours, though the cases of more severe mental disorders have been registered lasting for two and more days. Intensive care mainly consisted of symptomatic treatment aimed at prevention of respiratory and cardiovascular...
disorders. Respiratory inhibition has been often accompanied by psychomotor excitation and an increased risk of pulmonary oedema and toxic shock, therefore specific antidotes (naloxone) and central analeptics have not been used. Test systems for diagnostics of narcotics and psychotropic substances in urine yielded no positive results, in individual cases positive test for marijuana has been registered. Given the variety of symptoms of intoxication by Spice smoking mixtures, the diagnostics of condition was based on the case history (the fact of consumption of toxic products) and combination of several symptoms: tachycardia, redness of the sclera, anxiety, hallucinations, speech disorder. Most commonly cardiovascular and neurologic disorders have been the consequences of toxic effect of excipients added to the composition of the herbal mixture, as well as the effect of narcotic mixtures.

**Conclusion**

Numerous cases of severe intoxications by Spice products among young people in recent years form an extremely dangerous toxicological situation in our state; therefore, the authors believe that only joint research of emergency medical care experts, toxicologists, psychiatrists, substance abuse therapists, criminalists and state control authorities can promote establishment of an effective system of prevention of fatal consequences of the designer drugs mass consumption.