



Expert assessment of brain impairment in postasphyctic conditions

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Abstract: We analyzed signs of impaired brain activity in postasphyctic states based on the materials of forensic medical examinations conducted in 2017-2020 in Andijan, Ferghana regions and the city of Tashkent. 93.0% of the victims sought medical help, 84.2% were treated in hospital. As a result of asphyctic exposure, 75.7% of the victims lost consciousness, men and women under 18 years old - for a longer period. In 55.7% of cases, amnesia was observed, in 58.1% - different seizures. There was a strong direct relationship between the duration of loss of consciousness and the development of amnesia, seizures. Impaired brain activity is a decisive factor in determining the severity of bodily harm in victims.

Keywords: mechanical asphyxia, postasphyctic state.

Health disorders and deaths as a result of oxygen deficiency occupy a special place in the activities of forensic medical examination institutions. Despite the fact that, unlike cases that ended in death, zero asphyxia is relatively rare, these cases are among the complex examinations [1,3,9,12,16]. In some cases, in experts of this type, according to the current rules, direct selection of the criterion for determining the severity of bodily harm caused to victims creates specific difficulties [2,11,13].

It should be noted that experts did not properly study the forensic aspects of post-Soviet circumstances [4,7,15,14,10]. Due to the desire to hide the incident in cases of unfinished asphyxia by victims and their loved ones, in many cases without seeking medical help, there is no accurate data on the type of injuries

observed in post-Caspian situations, clinical changes and marimas of their collisions [5,6,8,17].

Purpose of the study: analysis based on forensic medical examination of signs of impaired brain function in victims in cases of incomplete asphyxia.

Research materials and methods: The object of the study was the materials of examinations of living persons conducted in 2017-2020 in the Andijan, Ferghana regions and Tashkent on post-asphyxial circumstances. During this period, 456 examinations of this type were carried out in these regions, which amounted to 0.31% of the total number of examinations of living persons. Forensic examination materials for all cases, medical documents provided, details of the event, place and time of occurrence of the event, type, features and duration of asphyxiation, clinical presentation of postasphyctic condition, medical care, tan injuries and other changes identified in victims, data from consultations of clinician specialists conducted in the examination, criteria used in forensic determination of severity of body injuries were studied in detail. Special attention was given to the symptoms of impaired brain function observed in the victim. Special cards were filled in, which stored about 30 characters per case. The characters were digitized and a database for statistical processing was created. The results of the study were subjected to statistical processing using a special computer program.

Research results and their discussion: In the years of the analysis, forensic medical examination institutions of the three regions had an average ratio of 1: 6.6 for the examination of living individuals and corpses associated with asphyxiation, and this indicator was significantly different in the regions, the cross-section of years (from 1:3.4 to 1:13.3).

Among the victims, there was a male majority (57.5%). In age group cross-section, nearly two-thirds of cases were for ages 19-29 (37.9%) and 30-39 (26.9%). Children and adolescents accounted for 13.0% of the observations.

All cases were caused by strangulation asphyxia, with 84.0% of observations involving attempted self - hanging, 15.6% involving strangulation, and 0.44% of suffocation. It should be noted that not a single living person has been examined in connection with other types of noletal mechanical asphyxia (obturation, compression and in a restricted environment). In most cases of self-hanging (97.8%), typical hanging is observed, and the shallow knot is located at the neck typical (95.2%). In 67.3% of cases, the surface is made of semi – hard, in 27.6% - soft material. The last indicator was significantly larger in women.

The scale of pathological changes observed in cases of incomplete asphyxia, the degree of severity is associated with the duration of asphyxiation, among other factors. Information about this was obtained from various sources (medical

documents, victims of an expert examination and their loved ones). According to the results of the analysis, in 20.1% of cases, the asphyxiation effect lasted up to 30 seconds, in 22.7% – 31-60 seconds, in 57.2% - more than a minute. There was no significant difference between men and women in this regard.

Of those affected, 93.0% sought medical care following the incident, 8.8% of whom were restricted to emergency services, while the remaining 84.2% were treated in stationary conditions. Of total stationary treatment, 62.3% were treated for 2-7 days and 26.0% for longer. The rest of the victims had a short period in the station - up to 24 hours. 51.8% of the victims were hospitalized in the intensive care unit and the rest in emergency care, therapy, surgery and other departments. It should be noted that in postasphyctic cases, there is no uniform approach in the provision of medical care for victims (hospitalization, conducting diagnostic and therapeutic procedures).

During the meeting, the sides expressed satisfaction with the development of cooperation between Tajikistan and China. In particular, bundai belgilar kahiga jabrlanganlarda hushning buzilisi, amnesia, turli tusdag talvasalarning kuzatilishi kiradi. The analysis showed that 75.7% of asphyxiating effects over a long time. Aellarda bu cürsatkich-81.4% ha, erkaklarda – 71.4% ha teng bulgan. Aklarning is a bridge (55.1%), erkaklarning is 40.1% of the vigilance of bir sutkagach yokotgan. Currently, the narrowcroke shushning has been engaged in the Erkaklard bridge for a long time. (Figure 1).

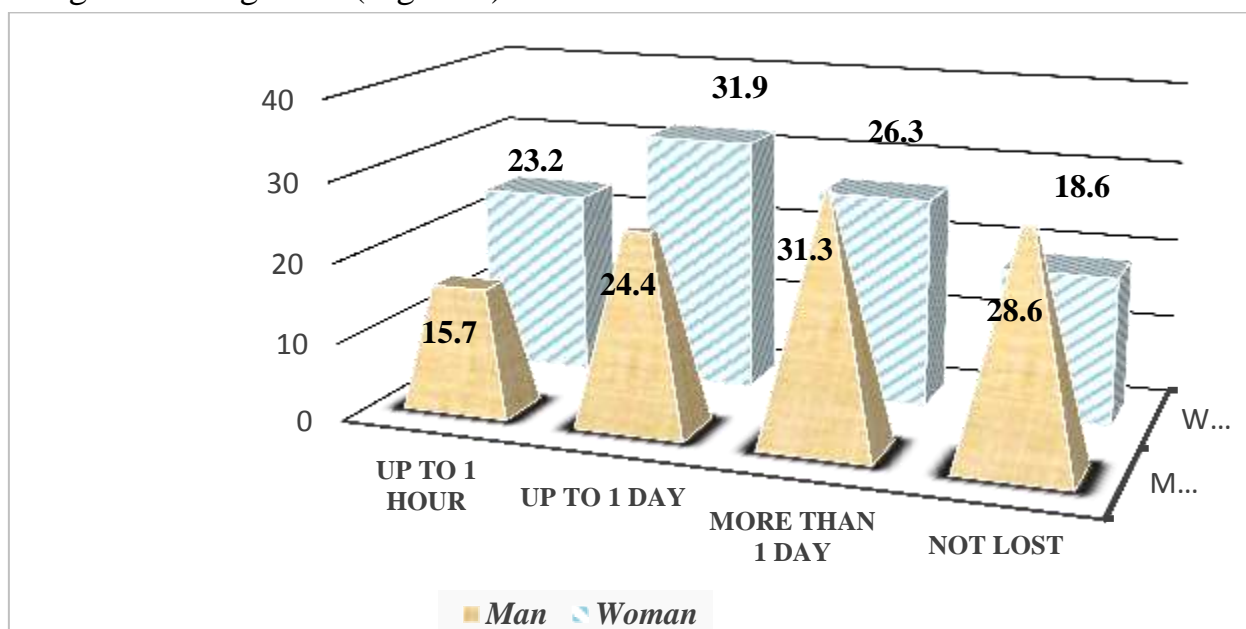


Figure 1. Duration of loss of consciousness in different sexes

Representatives of different age groups had certain differences in loss of consciousness. In a comparative study of adults under the age of 18 years and 18 years, the proportion of those who did not lose consciousness is similar in both groups (24.4% and 24.2%, respectively). However, those affected under 18 had

more people passed out for longer. 40.7% of them were on more than one day, 8.5% on more than five days unconscious, while in older ages such cases were observed significantly less (27.5% and 3.0%, respectively ($p < 0.05$)) (Figure 2).

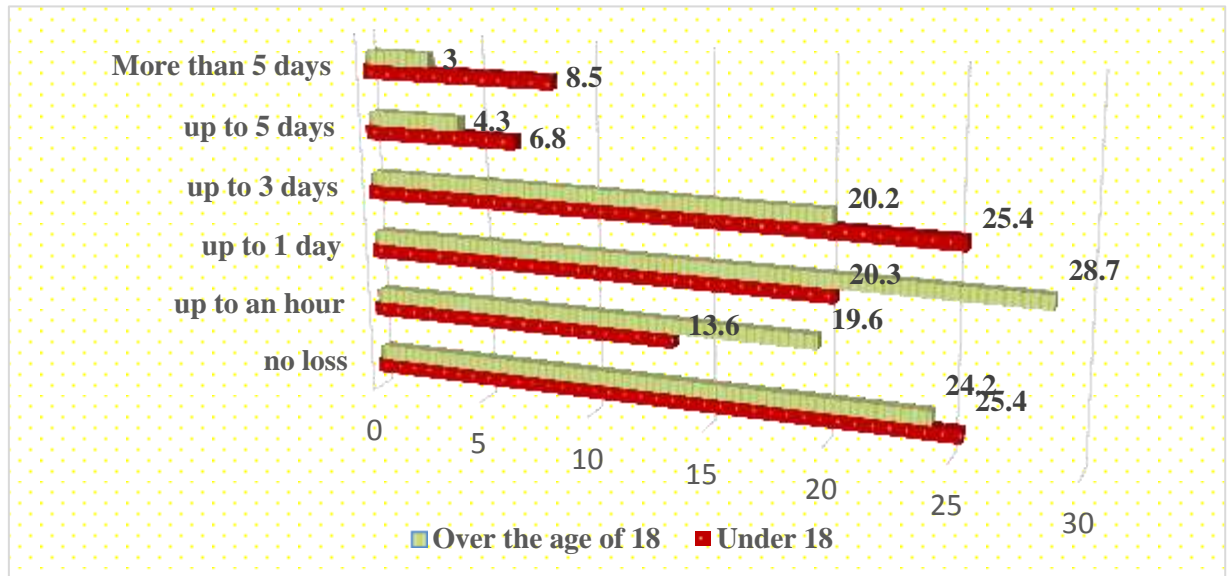
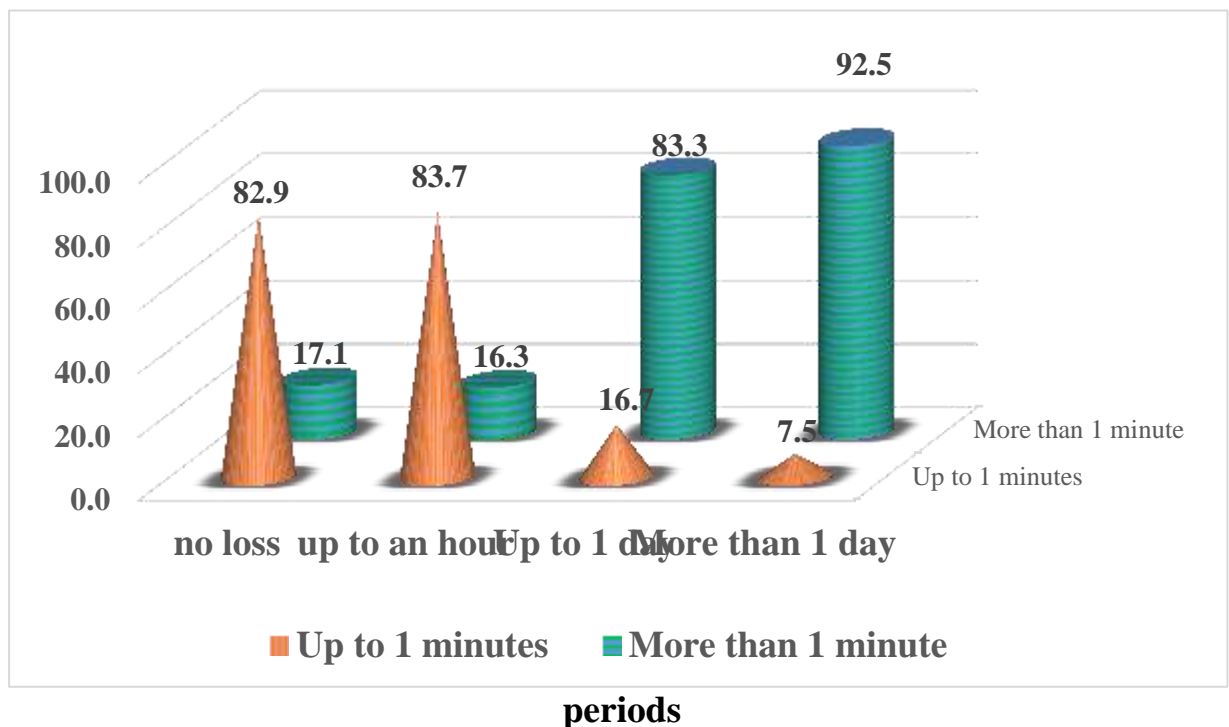


Figure 2. Loss of consciousness in children and adolescents and adults

A direct relationship between the duration of asphyctic exposure and loss of consciousness was revealed. In particular, in 47.2% of cases when up to a minute the strangulation did not lose consciousness, while with longer exposure this figure was 7.3% ($p < 0.01$). According to the 6 of those who lost consciousness for more than 93 hours, in 2% of cases asphyxiation exposure was more than a minute (3 figure).

Figure 3. Duration of asphyxiation in case of loss of consciousness for different



In 55.7% of observations, amnesia was recorded in the victims, which is mainly retrograde in nature. 99.6% of amnesia cases showed subconstructive ecchymoses.

According to medical documents and expert examinations, 58.1% of the victims had tonic, tonic-clonic quarrels, and representatives of different genders and age groups did not have a reliable difference in this regard. At the same time, in 246 out of 345 victims (71.3%) who lost consciousness in total, abrasions developed, while in those who did not lose consciousness, this figure was 17.3% ($p < 0.001$). A clinical assessment of brain disorders in post-asphyxiation situations was analyzed. According to the results obtained, 89.5% of the victims had various brain disorders

In 50.9% of the total number of observations, a coma of II - III degree was noted, in which severe bodily injuries were detected by the symptoms of risk to life. In the remaining cases, the criterion of duration of health impairment was used in determining the severity of bodily harm. In this matter, there was no significant difference between representatives of different genders and age groups. It should be noted that 92.9% of 256 victims diagnosed with coma had amnesia, 95.3% had various diseases. The decisive factor in determining the severity of bodily harm in the victims was a malfunction of the brain.

Conclusion

Based on the materials of the forensic medical examination, based on the analysis of signs of impaired brain activity in postasfection cases, one can come to the following conclusions:

1. Postasfection situations are mainly associated with attempts at self-preservation, more often observed in men aged 19-39 years.
2. 75.7% of those affected by asphyxiation lost consciousness. Men were more likely to experience loss of consciousness for a longer period than women under the age of 18.
3. 55.7% of the victims developed amnesia, 58.1% had various disorders. Between these signs and the duration of loss of consciousness, a direct connection was found at a strong level.
4. In 56.2% of cases, brain disorders were assessed as a coma, in most victims amnesia and various disorders were observed.
5. The decisive factor in determining the severity of bodily harm in the victims was a malfunction of the brain.

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