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SPECIFICITY OF MECHANICAL ASPHYXIA

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Abstract: The article discusses the problems of conducting forensic medical examinations related to assessing the severity of health damage due to mechanical asphyxia. In accordance with the existing regulatory framework, criteria for assessing the severity of harm to health are specified when performing examinations both in relation to corpses and living persons.
Keywords: Forensic medical examination, victims, mechanical asphyxia, harm to health.

INTRODUCTION

Despite the fact that numerous researchers have studied mechanical asphyxia, in forensic medical examination the diagnosis and assessment of hypoxic conditions in victims is still one of the pressing problems [1].

It is generally accepted that mechanical asphyxia is acute oxygen starvation due to impaired circulation, respiration and brain function as a result of the action of mechanical factors [2].

MATERIALS AND METHODS

The development of asphyxia in its various types proceeds in a fairly uniform manner, and is characterized by a certain sequence of dysfunction of vital organs and systems of the body. In this case, two periods and several phases are distinguished:

I. Pre-Asphyctic period.

II. Asphyxial period:

– phase of inspiratory dyspnea;
– phase of expiratory dyspnea;
– phase of convulsive breathing;
– phase of short-term respiratory arrest;
– terminal breathing phase;
– phase of final cessation of breathing;
– phase of stopping the heartbeat.

The severity and duration of individual phases of asphyxia can vary and depends on many factors, including such as: general health, the presence of concomitant chronic diseases, age, etc. However, on average, it is believed that it takes about 5–7 minutes for a person to completely stop breathing.

RESULTS AND DISCUSSION

Post-mortem diagnosis of mechanical asphyxia is based on the expert's detection of signs of rapid death (general asphyxial signs) and specific signs characterizing a specific type of asphyxia [2].

As a rule, identifying these signs and assessing the severity of harm caused to health does not cause any particular difficulties during a forensic medical examination of a corpse.

According to the "Medical Criteria," when determining the severity of harm caused to a person's health, it is not the fact of compression of the neck organs or other type of mechanical asphyxia that can be assessed, but the resulting consequences in the form of the development of life-threatening conditions:

– severe (3–4) degree shock (clause 6.2.1);
– coma of the 2nd–3rd degree of various etiologies (clause 6.2.2);
– severe acute cardiac and/or vascular failure, or severe cerebrovascular accident (clause 6.2.4);
– severe acute respiratory failure (clause 6.2.6).

Thus, it is not injuries to the neck, but rather the developed life-threatening conditions specified in these paragraphs of the "Medical Criteria" that are recommended to be used when assessing the severity of damage to health from mechanical asphyxia, when examining living persons, since they based on the clinical picture, which can be recorded in medical documents.

However, in the "Medical Criteria" there is no specific decoding of objective data that would allow an expert to ascertain one or another life-threatening condition of the victim at the time of injury or after, which would make it possible to establish the severity of the harm caused to health. As expert practice shows, forensic

medical assessment of the severity of mechanical asphyxia in living persons is associated with some difficulties. This is due to the lack of a unified approach and guidelines for determining the severity of harm to health in such situations, the variety of clinical manifestations, insufficient information about the dynamics of the symptoms present, the complexity of assessment in cases where compression of the neck may not be accompanied by asphyxia during the presence of traces of strangulation, and, conversely, pronounced clinical manifestations in the absence of visible injuries to the neck [3].

Thus, in the first case, during the investigation of a criminal case, it was established that during a conflict in a parked car, the father pressed his hands on the neck of his 23-year-old daughter. According to the victim, as a result of this she lost consciousness for some long time, because... when I regained consciousness, I realized that they were already in another part of the city. In the second case, during the investigation of the criminal case, it was established that two criminals, while in a taxi car, attempted to kill the driver, Mr. Z., 24 years old, by strangling him with a noose. According to the circumstances of the incident, one of the attackers, who was sitting behind the driver, when stopping the car, put a shoe lace around his neck and began to tighten it. The second attacker, who was sitting in front, was holding the victim's hands at that time. The compression of the neck lasted about 30–40 s, after which the victim lost consciousness and "went limp," sliding down the car seat. The attackers, thinking that the driver was dead, pulled him out of the car and threw him on the side of the road. The victim woke up a few minutes later and immediately contacted law enforcement agencies and for medical help. On the same day, he was hospitalized in a hospital, where he was treated for 5 bed days with the diagnosis: "Strangulation asphyxia, acute posthypoxic encephalopathy."

CONCLUSION

Analyzing the literature data and the above cases from expert practice, we see that at the moment both in the expert and forensic investigative community there is no clear understanding of what "mechanical asphyxia" is - the circumstances of the case, the process or the result of some kind of manipulation of the victim? This situation does not allow us to come to a unified idea about the nosological form of the injuries and pathological changes identified in the victim ("mechanical asphyxia," "cerebrovascular accident," "respiratory failure," "blunt neck injury").

Thus, in the absence of a unified approach to the forensic medical assessment of this type of injury in living persons, we will all constantly be faced with different interpretations of the same expert data, which leads and will lead to numerous repeated forensic medical examinations.

Taking this into account, we invite all interested parties to express their informed opinions on this issue on the pages of our specialized magazines and collections.

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