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DOI https://doi.org/10.36059/978-966-397-522-1-87

FEATURES OF IDENTIFICATION OF PERSONS KILLED DURING THE RUSSIAN FULL-SCALE INVASION OF UKRAINE

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The relevance of the work is associated with a sharp increase in the number of molecular genetic examinations of unidentified (unidentified) corpses compared to the peacetime period. The huge number of such requests is due to the high activity of hostilities, as a result of which it is not always possible to collect the bodies of the deceased immediately after the end of the combat clash (numerous violations of the laws of war by the aggressor). This has led to the emergence of types of human remains, cases of research of which are rare in world practice, as well as the emergence of certain features in the work of the expert [1]. Many specialists are involved in the process of identifying unknown deceased persons at its various stages: forensic medical experts, forensic experts – molecular geneticists, participants in the trial, witnesses and potential relatives

of the deceased, representatives of various international and state institutions, etc. However, in the vast majority of cases, when making a decision on the identification of a person, the only source of evidence is the conclusion of a forensic molecular genetic examination, made on the basis of a DNA study of the remains of the deceased, whose identity is being established, and his probable relatives [1]. Today, the use of DNA analysis methods is one of the most informative methods of personal identification [2].

Biological samples are a source of DNA that can be used to establish the identity of people and identify their connection with the scene of the incident or evidence found there. Biological samples include: soft tissues, bones, teeth, blood, urine, saliva, semen, vitreous humor, hair, nails [3].

Purpose of the work: to find out the features of the identification of unidentified deceased persons during the russian full-scale military aggression against Ukraine, based on the experience of experts in conducting forensic medical (molecular genetic) examinations.

Material: the objects of the study were the bodies of deceased servicemen of the defenders of Ukraine and civilians who were in various states of putrefaction, the remains of exhumed corpses, bodies and remains of bodies that were subjected to the destructive effects of high temperature (flame during a fire in a vehicle or in buildings caused by artillery shelling or missile strikes by the aggressor), skeletonized corpses and their remains (bones, teeth).

In previous times, experts formulated their conclusions in conventional text programs, which was quite slow. But with the beginning of the full-scale invasion of russian troops into Ukraine, the workload on experts increased and the number of examinations increased, which led to the need to introduce innovative technologies (use of MSLab software). It is the MSLab2 module that allows for automated search for matches between individuals in the direct line of kinship [1].

To optimize the automatic mode of searching for direct and family matches in the database, February 6, 2023 The Law of Ukraine "On State Registration of Human Genomic Information" came into force, which allowed placing DNA profiles established in other institutions in the national data bank (Central Registry of Human Genetic Characteristics), and also significantly expanded the categories of DNA profile types that will be deposited in the national database of human genetic characteristics (Electronic Registry of Human Genomic Information) [1].

Currently, cadaveric material for examination is delivered to specialized institutions in the following state:

– remains removed from the place of death during the first few days after death and stored in a frozen / refrigerated state;

– exhumed bodies from graves in territories liberated from the enemy with known signs of decomposition;

– remains of deceased persons who died in russian captivity and were transferred to Ukraine thanks to the efforts of international humanitarian organizations;

– remains of individuals who have undergone varying degrees of thermal exposure as a result of fire damage [1].

Conducting polymerase chain reaction on bone remains and/or teeth involves the use of universal DNA extraction methods.

It is difficult for an expert to establish the genetic characteristics of a deceased person due to the absence of DNA or its extremely small amount and an extremely high level of degradation (remains in a state of charring).

Conclusions

1. The number of deceased unidentified persons in Ukraine is growing, which in turn increases the burden on forensic activities.

2. The features of the studied cadaveric material for DNA analysis during military operations are the variety of conditions.

3. The condition of the studied corpses (remains) is an important criterion when selecting and preparing biological material for their further identification by DNA typing.

4. The national database of human genetic characteristics allows for the effective and shortest possible identification of a deceased person in today's conditions in Ukraine.

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