Research article

E.A.Fedorova

Bogomolets National Medical University, Kyiv, Ukraine

Key words: medicolegal examination, timing of death, tissue of a corpse, crystallographic investigation.

UDC 340.624.6:818:616-091.1-00

THE PECULIARITIES OF THE CRYSTAL-LOGRAPHICS MODIFICATION OF A TIS-SUES FROM CORPSE DURING PUTREFAC-TIVE CORPSE TRANSFORMATION

ABSTRACT. Background. The crystallographic method was used to study the extracts of organs and blood in forensic medicine is not developed yet. However, it is fairly easy to use and does not require additional special equipment, so there is quite promising. Objective. The aim of research are became basis of possibility and effectively to use by thezygraphy method for medico-legal definition of prescription of approach of death by tissue of a corpse during its putrefaction. Meth**ods.** Thezygraphy method is used a modification of crystallogramms during dynamics postmortem period for medico-legal definition of prescription of approach of death. Sectional material consisted of the corpses of people who died from violent and nonviolent death in the age range from 18 to 92 years. All the bodies after death were preserved in the same temperature conditions. The tissues from various internal organs: brain, heart, lungs, kidneys, liver, spleen and blood from 30 cadavers were the object of sectional study. There for 939 biological objects were investigated. Results. The article deals with generalization the crystallography (thezigraphy) observation of crystallogramms from different tissues extract and blood depending on the different cause of violent and nonviolent death. The main purpose is to identify common crystallogramms features of the extracts of internal organs taken during putrefactive corpse transformation of people who died from various kinds of death. It has been proved that: 1). The typical crystallogramms were formed from various tissue extracts: blood, brain, heart, lungs, liver, kidneys, spleen in first day after of approach of death, depending on the cause of deaths. 2). In the dynamics of postmortem period and putrefactive transformation of the corpses (first week) the dynamic changes occur in crystallographic patterns obtained from extracts of the internal organs, and they can be used to establish the approach of death. Conclusion. The thezygraphy method may be used for medico-legal definition of prescription of approach of death. Crystallographic peculiarities of tissue extracts from inner organs and tissues of a corpse depend on time of death, putrefaction process and kind of death.

Received: 27.11.2013 Accepted: 20.12.2013

© E.A.Fedorova, 2013 ⊠ venik316@mail.ru

Citation:

Fedorova EA. [The peculiarities of the crystallographics modification of a tissues from corpse during putrefactive corpse transformation]. Morphologia. 2013;7(4):73-7. Ukrainian.



Fig. 1. Crystallograms on the first day postmortem: A – brain; B – heart; B – lung; Γ – liver; Π – kidney; Π – spleen; Π – blood.

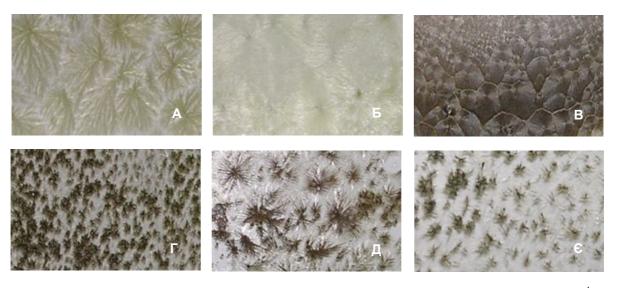


Fig. 2. Changes on crystallograms during following days postmortem: A -2^{nd} day; $E - 3^{rd}$ day; $E - 4^{th}$ day; $E - 5^{th}$ day; $E - 7^{th}$ day.



Fig. 3. Destruction of crystalls.

References:

- 1. Taher Asaad MA, author. O vozmozhnosti primeneniya tezigraficheskogo issledovaniya v sudebnoy meditsine [About possibility to use by thezygraphy method in forensic medicine]. Questions of forensic medicine and expert's practice. Donetsk; 1994. p. 30. Russian.
- 2. Gaivoronskaya VI, Mainovskaya OA. [A use crystallography method of researthing by cerebrospinal fluid for diagnostic and definition of degree heavy by cerebralis trauma у живых лиц]. Forensic medical examination. 1994;6:27-8. Russian.
- 3. Solohin AA, Gaivoronskaya VI, Kandaurov RV. [The crystallization by cerebrospinal fluid in cases of death diseases and poisoning ethyl alcohol]. Forensic medical examination. 2002;1:3-4. Russian.