

The study of emergence of aliphatic alcohols group C₁-C₅ in the biological material and the study of the dynamics of their concentrations in the postmortem period

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Abstract

Today the criteria of alcohol intoxication in the examination of living persons is developed in sufficient detail. In the method of examination at autopsy, there is a number of differences and there are still many issues that need to be resolved, among them – the distribution of alcohol in the body, assessment and treatment of forensic chemical analysis results, depending on the time of death and the changes over time of ethanol concentration in isolated cadaveric material. Each year, studies are in the field. But to date over methanol and alcohols C₃-C₅ group such studies have been conducted. The article describes a study of emergence of aliphatic alcohols – methanol, and a C₃-C₅ group in blood and muscle.

References

- [1] P.I. Novikov. Expert examination for alcohol intoxication carried out on a corpse. *M: Library of a Medical Practitioner*. **1967**. P.128. (russian)
- [2] V.V. Tomilin, Y.D. Gurochkin, E.A. Krasovskaya, S.N. Sergeev. With regard to the question of study of ethanol partition mechanism in visceral organs for acute alcohol intoxication. Forensic expert examination of poisonings. Digest of scientific papers. *L: Digest of Scientific Papers*. **1982**. P.17-20. (russian)
- [3] O.M. Zoroastrov. Expert examination of acute lethal alcohol intoxication in the process of autopsy. *Tumen: Editorial House of Tumen State University*. **2003**. P.176. (russian)
- [4] A.N. Lavreshin. With regard to the question of relative value of results of estimation of presence of ethyl alcohol in putrefied biological material. Topical questions of forensic theory and practice. *M*. **1998**. P.128-130. (russian)
- [5] A.V. Kapustin, P.P. Shirinskiy, V.V. Tomilin. Diagnostics of acute lethal ethanol poisoning and a possibility of its further improvement. Forensic expert examination of poisoning. *L.: Digest of Scientific Papers*. **1982**. P.14-17. (russian)
- [6] A.V. Kirichek, A.E. Shabalina, I.A. Tyurin, L.H. Tursunov. Use of the vapour phase gas chromatographic method in examination of acetone levels in biological material. *M.: Narcology*. **2015**. No.2. P.50-52. (russian)