INVESTIGATION OF DOXAZOSIN IN THE ROTTING BIOLOGICAL MATERIAL

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Introduction: Doxazosin is a postsynaptic α_1- adrenoreceptor antagonist. It used for treat high blood pressure and urinary relation associated with bening prostate hyperplasia. This medicine in case of overdose and self treatment can break the function of heat, liver, kidneys or cause death. The choice of high sensitive methods of investigation of doxazosin in biological objects is necessary.

Aim: the investigation of techniques of extraction and purification from impurities and quantitative determination of doxazosin in liver tissue of corpse during decay.

Materials and method: The model mixture consist of 10.0 g of liver tissue and 200×10^{-6} g doxazosin. They were storaged for 7, 14, 21 and 28 days at temperature 5 ºC. In parallel, a control experiment was carried out. Extraction out of biological material was performed in several stages – centrifugation, the protein fraction was precipitated by ethanol (96%), extraction of impurities with hexane, and thin layer chromatography (TLC).

Hexane purification was performed at pH 2.0. TLC-purification was performed at conditions: stationary phase - Sorbfil, mobile phase - chloroform-acetone (80:20).

Quantitative determination was performed by UV- spectrophotometric method. Conditions: spectrophotometer SF-46, quartz cell of 1.0 cm; λ_{max} = 250 ± 2 nm; reference solution was obtained from the control experiment.

Doxazosin concentration in solution (C, mg / ml) was calculated from the equation of the linear dependence of absorbance and concentration (P = 8.988 A).

Results: At the beginning the content was 10.0±4.8% of substance; after 21 days of storage in decay tissue of the corpse can be found 3.5%; after 28 days – doxazosin not possible to determine.

Conclusions: We had defined shelf life of doxazosin in decay biological material. The results can be recommended for using in chemical-toxicological analysis.