DEVELOPMENT AND VALIDATION OF HPLC/UV-PROCEDURE FOR EFAVIRENZ QUANTITATIVE DETERMINATION BY THE METHOD OF CALIBRATION CURVE

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Introduction. Efavirenz is a synthetic compound from the group of non-nucleoside reverse transcriptase inhibitors used for treatment of HIV infection. There are cases of acute poisoning due to administration of efavirenz, including cases of suicide attempts.

Aim. To develop HPLC/UV-procedure of efavirenz quantification using the system of HPLC-analyzer MiLiChrome® A-02 and carry out its step-by-step validation in the variant of the method of calibration curve to prove the acceptability for further application in analytical toxicology.

Materials and methods. Efavirenz was of pharmacopoeial purity. The reference, stock and model solutions of secnidazole were prepared using ethanol as a solvent.

The HPLC/UV-analyses conditions: high pressure liquid chromatograph MiLiChrome® A-02 (EcoNova, Russia); *Eluent A* (0.2 M $LiClO_4$ – 0.005 M $HClO_4$) and *Eluent B* (acetonitrile) were used as the mobile phase components; HPLC microcolumn of Ø2×75 mm dimension and reversed phase ProntoSIL 120-5-C18 AQ, 5 μm (BISCHOFF Analysentechnik und -geräte GmbH, Germany) were used as an analytical column; all analysis was carried out at 40°C and flow rate of 100 μl/min.; the mobile phase was run in gradient elution mode, namely from 5% to 100% *Eluent B* for 40 min, then 100% *Eluent B* for 3 min.; detection was performed at 247 nm.

Results and discussion. The specificity of the used chromatographic conditions has been confirmed in relation to other antiretroviral medicine. Retention time for efavirenz is 11.95 min. To prove the possibility of the proposed procedure application in further analysis its step-by-step validation has been carried out in the variant of the method of calibration curve. Such validation parameters as in process stability, linearity/calibration model, accuracy and precision (repeatability) have been estimated by model solutions.

Conclusions. New procedure of efavirenz quantitative determination by the method of HPLC/UV has been developed; its acceptability for application has been shown.

EVALUATION OF POLYPHENOL COMPOUNDS AND ANTIOXIDANT ACTIVITY IN IVY (*Hedera Helix L.*) LEAVES

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Introduction. In folk and traditional medicine ivy leaves (Hedera helix L.) are well known and widely used for its pharmacological effects, such as relief of expectoration, reduction of inflammation, promotion of blood supply to the pelvic organs. The ivy leaves contain saponins, flavonoids, phenolic acids, emetine alkaloid, aminoacids, sterols, proteins, vitamins, polyacetylenes. Mainly saponins, due to their high concentration, followed by dicaffeoylquinitial acids and the flavonol derivatives. It is known that most of the compound responsible for medical effects are triterpenic saponins, it is therefore intended to determine the amount of phenolic compound and antioxidant activity in this work.

Aim. To evaluate the antioxidant activity and the amount of polyphenolic compounds in ivy leaves (Hedera helix L.) collected in different European countries by spectrophotometric method.

Material and methods. The total content of phenolic compounds has been evaluated by Folin-Ciocalteu method and calculated by gallic acid equivalent. Total content of flavonoids have been