of mineral waters in which metals of various types are contained in a rather large amount. At the same time, many antibiotics contain in their composition carboxyl and hydroxyl groups, which can enter a complexation reaction with metal cations.

Aim. Study how complexation can affect the release kinetics of amoxicillin from tablets.

Materials and methods. At the first stage of our study, we conducted an assessment of the mineral water market and selected those that contain the largest amount of minerals in their composition. After preliminary analysis of the content specified by the manufacturer, we selected the following trademarks: “Karpatska Dzherelna”, “Truskavetska”, “Essentuki №17”, “Polyana kvasova”, “Borjomi". At the next stage, is necessary to carry out a quantitative analysis of water hardness by complexometric titration to calculate the exact content of calcium and magnesium cations in a sample. After that it is necessary to select the test conditions.

To carry out the dissolution test, we chose to use a State Pharmacopoeia of Ukraine monograph for amoxicillin tablets, making some changes: the medium of dissolution – 0.1 M HCl, whose pH is near to the pH of the stomach, the rotation speed is 150 rmp, time of analysis – 45 min, number of samples – 6. The volume of medium is 900ml of 0.1 HCl with addition 100 ml of mineral water.

Results and discussion. The results showed that the calcium content is greatest in such waters as “Karpatska Dzherelna”, “Truskavetska” and “Essentuki №17” the content in all waters is close to the average value of the concentration range specified by the manufacturer. The magnesium content in all investigated waters is minor but in total with calcium it also can make some influence.

Conclusions. With the help of this technique, the dissolution kinetics profile of amoxicillin tablets in a medium of 0.1 M HCl solution with addition of a portion of mineral waters presented on the Ukrainian market can be investigated. Similarity factors should be calculated to equivalence estimates.

COMPARATIVE ESTIMATION OF THE METHODS OF ASSAY OF ESTRADIOL VALERATE IN TABLETS

Can Abdurrahman
Scientific supervisor: assoc. prof. Taran K. A.
National University of Pharmacy, Kharkiv, Ukraine
kate.taran@gmail.com

Introduction. Pharmaceutical preparations containing estradiol valerate are among the most popular and prescribed in gynecology estrogen-containing medications for the correction of hormonal balance in women’s organism. The assay of estradiol valerate substance by Europeian Pharmacopoeia is carried out by the method of UV-spectrophotometry.

Aim. The purpose of our research is to carry out quantitative estimation of estradiol valerate content in tablets using various techniques of UV-spectrophotometry method and different solvents for quantitative determination, to make a conclusion about possibilities of the tested techniques in quantification of medication.

Materials and methods. We used the analytical balance Axis ANG-200 and the measuring glass wear of class A. For the spectrophotometric investigations we used the spectrophotometer Evolution 60S. The statistical studies were carried out by the common procedure.

Results and discussion. For our investigations tablets of estradiol valerate 2 mg of Bayer producer and estradiol valerate certified reference standard were taken. The electron absorption spectra of estradiol valerate certified reference standard in water and ethanol were studied. It was found that its spectra in water and ethanol have the absorption maximum at 278 nm and 280 nm respectively. Estradiol valerate was extracted from the powder of grinded tablets by ethanol and UV-spectrum was obtained. As the spectrophotometric quantification of estradiol valerate can be carried out by the methods of specific absorbance, calculations by the graph and the method of standard, the corresponding procedures were developed. The validation characteristics that prove the possibility of the methods of specific absorbance and the method of standard usage for the assay of estradiol valerate in tablets were obtained.

Conclusions. The most preferable technique for quantification of estradiol valerate in the composition of tablets by UV-spectrophotometry is the method of standard. The simple UV

spectrophotometric procedure for the assay of estradiol valerate in tablets having the possibility of usage of different solvents that provides good accuracy of the results has been developed.

DEVELOPMENT THE DETERMINATION PROCEDURE FOR LIDOCAINE HYDROCHLORIDE IN THE NEW DENTAL DOSAGE FORM

Chernyakova V., Materiienko A., Grudko V., Masliy Ju.
National University of Pharmacy, Kharkiv, Ukraine
valeriya.chernyakova.96@mail.ru

Introduction. Dental diseases today is fairly common among people around the world. It is well known that these diseases are often accompanied by such an unpleasant symptom as pain. Many drugs for the treatment of dental pathologies contain locally anesthetic agents for the treatment of this symptom.

Lidocaine hydrochloride is one of the most widely used local anesthetics, characterized by fast onset, moderate activity and toxicity and average duration of action. The pharmaceutical market of Ukraine has a fairly large number of drugs containing lidocaine hydrochloride.

Aim. The purpose of our work is to develop methods for qualitative and quantitative analysis of lidocaine hydrochloride in dental gel with choline salicylate and tincture «Phytodent».

Materials and methods. To identify lidocaine hydrochloride in the gel chemical reactions were proposed. Also, for the quantitative determination, the method of extraction spectrophotometry was used.

Results and discussion. For the qualitative analysis of lidocaine hydrochloride, the following reactions are proposed: the reaction of formation the nitro derivatives after interaction with concentrated nitric acid with the subsequent addition of alcoholic potassium hydroxide solution – a reddish brown color with brown precipitate are formed as a result. To confirm the hydrochloride, a reaction with silver nitrate in an acidic medium is proposed. A white precipitate of silver chloride is formed as a result.

The assay of lidocaine hydrochloride in the combined dosage form is proposed to be carried out by extraction spectrophotometry. This method is very specific and allows determining the quantitative content of lidocaine hydrochloride in the presence of choline salicylate and herbal components.

The method consists in the formation of an ion associate of lidocaine with tropeoline in a moderately acidic medium with further extraction by chloroform and measurement of the absorbance at a wavelength of 412 nm. Calculation of quantitative content is proposed to be carried out according to the standard method.

It has been experimentally proved that the other components do not form an ion associate with tropeoline in these conditions.

Conclusions. Methods for identifying and quantifying the lidocaine hydrochloride in the combined dental gel were developed.

DEVELOPMENT OF THE GC / MS METHOD FOR THE DETERMINATION OF ANTIDEPRESSANTS

Faizullaeva Sh.H.
Supervisor: Jhalilov F.S.
Tashkent Pharmaceutical Institute, Tashkent, Republic of Uzbekistan
shahodat.pharm@mail.ru, fazliddin.sj@mail.ru

Introduction. Among the physicochemical methods used in the analysis of organic substances, the gas-chromatography-mass-spectrometry (GC/MS) method is distinguished by such characteristics as high sensitivity, clarity and, especially, the possibility of determining a small amount of a substance to be tested in complex compounds. It is shown that this method is widely used in the determination of metabolites derived from toxic substances as a result of the metabolic process occurring in the body and in processes where an unknown substance causes intoxication or no standard sample.

One of the most powerful and universal methods for studying the structure of unknown substances in expert laboratories is the gas chromatographic determination with mass spectrometric detection (GC/MS), combining the possibility of a highly selective separation of the mixtures being studied, the