DEVELOPMENT OF METHODS OF QUANTITATIVE DETERMINATION OF HYDROCHLOROTHIAZIDE IN COMBINED PHARMACEUTICAL PRODUCTS CONTAINING ANGIOTENSIN CONVERTING ENZYME INHIBITOR RAMIPRIL

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The aim of our study was experimental confirmation of the possibility of using the methods of quantitative determination of hydrochlorothiazide in tablets using the method of absorption spectrophotometry in the ultraviolet and visible regions of the spectrum in the combined drug products containing thiazide diuretic gidrohlortiazid and inhibitor of angiotensin-converting enzyme (IACE) ramipril. The spectrophotometric method of determination of hydrochlorothiazide is contained in the monograph “Gidrohlortiazid tablets” and included in the II edition of the State Pharmacopoeia of Ukraine (SPU). To use the methods in the presence of other active pharmaceutical ingredients (API), we studied the effect of ramipril and excipients on the quantification of hydrochlorothiazide.

Objects of research: tablets "Ramizes com" series 10315, standard samples of hydrochlorothiazide and ramipril. Research methods: absorption spectrophotometry in the ultraviolet and visible ranges. Analytical equipment: spectrophotometer “Evolution 60S”, analytical balance “Axis” model 200 ANG, measuring utensils, class A, reagents and auxiliary substances that meet the requirements of SPU.

The method of preparation of the investigated solutions.To accurate sample of powdered tablets, equivalent to 50 mg of hydrochlorothiazide, or to precise linkage of standard samples, add 10 ml of 0.1 M solution of sodium hydroxide, shaken for 20 min, the volume was adjusted solution with water to 100.0 ml, stirred and filtered. 2.0 ml of the resulting solution was adjusted with 0.01 M solution of sodium hydroxide to volume of 100.0 ml. Optical density of the resulting solutions was measured at a wavelength of 273 nm, compensation solution is 0.01 M solution of sodium hydroxide.

When recording the UV spectra of the solutions of a model mixture, extraction from tablets and standard samples of hydrochlorothiazide and ramipril in the region from 220 nm to 350 nm is established that the maximum absorption of hydrochlorothiazide is observed at a wavelength of 273 nm. At this wavelength, ramipril practically does not absorb.

Our studies show that in combined dosage forms which contain ramipril, hydrochlorothiazide, can be quantified by spectrophotometry at a wavelength of 273 nm. It is established that neither ramipril nor excipients do not interfere with the course of the analysis.