

DEVELOPMENT OF METHOD QUANTITATIVE DETERMINATION FOR PHENYLEPHRINE HYDROCHLORIDE IN NASAL DROPS

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Phenylephrine hydrochloride belongs to a group decongestant – nasal vasoconstrictor drugs systemic or local (topical) action. Phenylephrine stimulates a greater extent α_1 -adrenoreptory. As a result of activation of alpha-blockers pre- and post-capillary developing vasoconstrictor effect, which reduces congestion, vascular permeability and mucosal edema, nasal reduce secretions and helps to restore the outflow of mucus from the paranasal sinuses. This docked runny nose, nasal breathing improves and disappears feeling of nasal congestion. In addition, reducing swelling of the mucous in the mouth of the auditory tube pharyngeal promotes adequate aeration of the middle ear.

Stimulating α -adrenergic vascular vasoconstrictor phenylephrine promotes severe action. Vasoconstrictor effect is a decrease in blood flow, decrease swelling of the mucous membranes of the nose, sinuses and eustachian tube. Thereby recovering breathing through the nose, which was disturbed by the flu, colds and allergic diseases.

As decongestant topical action, phenylephrine hydrochloride used in nasal drops, such as "Nazol Baby", "Gripocitron Rinis", "Vibrocil" and others. All these dosage forms except phenylephrine contain other active and additional ingredients. The aim of our research was to develop a spectrophotometric method of quantitative determination of phenylephrine hydrochloride in nasal drops which allows to determine mezaton in the presence of others APIs.

To resolve this objective, we have developed a method of spectrophotometry in the visible spectrum, which is based on formation of colored products phenylephrine hydrochloride with 4-Aminoantipyrine. The reaction was performed in alkaline medium, in presence of potassium ferricyanide. Absorption of colored in the red color product was measured at 499 nm wavelength We found that the reaction of the test solution is stable for 30 minutes. Other APIs and excipients in nasal drops do not interfere the determination of phenylephrine hydrochloride in these conditions.

Methods has been tested on nasal medical products "Nazol Baby" and "Gripocitron Rinis". Established quantitative content of phenylephrine hydrochloride in these medical products is 92% and 95% respectively.