

## STUDY OF ANTIMICROBIAL ACTIVITY OF "CETIRAZ" SUPPOSITORIES

Gaibnazarova D.T., Kasimova D.B., Tillaeva G.U.

**D.T. Gaibnazarova** - Associate Professor of the Department of Organization of Pharmaceutical Production and Quality Management

**D.B. Kasimova** - Assistant of the Department of Pharmaceutical Chemistry of the Tashkent Pharmaceutical Institute

**G.U. Tillaeva** - Professor of the Department of Organization of Pharmaceutical Production and Quality Management

**Annotation.** The antimicrobial and antihistamine activity of Cetiraz suppositories has been studied. Cetiraz suppositories are recommended for use in bacterial gynecological infections (vaginitis, cervicitis) caused by microorganisms sensitive to synthomycin. And also as a prophylactic agent for purulent -inflammatory diseases in gynecology before invasive procedures: abortion, gynecological operations (diathermocoagulation of the cervix, hystero-graphy), before and after installation of an intrauterine device.

**Introduction.** Azithromycin is a broad-spectrum antibiotic from the macrolide-azalide group that acts bacteriostatically. By binding to the 50S ribosomal subunit, it inhibits peptide translocase at the translation stage, suppresses protein synthesis, slows down the growth and reproduction of bacteria, and in high concentrations has a bactericidal effect. Acts on extra - and intracellularly located pathogens.

**Relevance.** Due to the incidence of gynecological diseases in women accompanied by allergic complications, the development and study of the pharmacological properties of vaginal products containing an antibiotic in combination with an antihistamine is relevant.

**Target.** And a study of the antihistamine antimicrobial activity of the drug "Citeraz" - suppositories (st. sample 01, 3 years this year), developed at the Department of Organization of Pharmaceutical Production and Quality Management of Medicines TashPharmI in experiments in vitro. Statistical processing of the obtained analysis results.

**Materials and methods:** A drug "Citeraz" - suppositories (v. sample 01, 3 years this year) , developed at the Department of Organization of Pharmaceutical Production and Quality Management of Medicines TashPharmI, biological and microbiological methods [4].

**Results: The antihistamine activity** of drug a was studied on an isolated intestinal smooth muscle preparation [1-2]. Guinea pigs weighing 400–500 g were used for the experiment. The guinea pigs were decapitated under anesthesia, the abdominal cavity was opened, and the small intestine was removed. They cut into pieces, prepared isolated intestinal preparations and perfused with Tyrode's solution. Intestinal contracture was caused by a histamine solution at a concentration of  $1 \cdot 10^{-6}$  g/ml (control), which we accepted as 100%. After obtaining control indicators, solutions of the compared drugs were injected into Tyrode's solution at a concentration of  $2 \cdot 10^{-5}$  g/ml and after 2 minutes a spasmogenic agent (histamine) was added. The height of contractile activity was taken into account and calculated as a percentage relative to the control.

The obtained data were statistically processed using the STATISTICA program for Windows 95.

Histamine in to concentration  $1 \cdot 10^{-6}$  g/ml caused a spasm of the isolated segment intestines of guinea pigs and was accepted as 100% in this series of experiments. Preparation "Citerase" in a concentration of  $2 \cdot 10^{-5}$  g/ml did not cause relaxation of the isolated intestine, 2 minutes after the administration of a histamine solution at a concentration of  $1 \cdot 10^{-6}$  mg/kg height of contraction of isolated intestines in the Cyteraz drug group amounted to 102,2%, which is 2,2% more than the control indicator.

The results of the experiment studying the antihistamine activity of Cetiraz suppositories are shown in Table 1.

Table 1

### Results of an experiment studying the antihistamine activity of Cetiraz suppositories

	1·10 <sup>-6</sup> g/ml)	
	1.1	0.9

Thus, the study of the specific effect of the drug "Citeraz" - suppositories (s. sample 01, 3 years this year), developed at the Department of Organization of Pharmaceutical Production and Quality Management of Medicines TashPharmI shows that the drug has antihistamine effect.

**Antimicrobial activity.** The drug "Citerase" was determined by diffusion into agar on a solid nutrient medium by comparing the sizes of zones of inhibition of the growth of test microbes formed when testing solutions of certain concentrations of the standard sample and the test drug [3].

For analysis, sterile Petri dishes of the same diameter with a smooth flat bottom were used. Cups

placed on a horizontal table were filled with 20 ml of a nutrient medium of a certain composition, contaminated with an 18-20 hour test culture (St. Aureus). Appropriate nutrient media were used for research.

Preparation of inoculum: to prepare inoculum, pure daily cultures of microorganisms grown on solid nutrient media are used. Several similar, clearly isolated colonies were selected. Loop or transfer a small amount of material from the tips of the colonies into a tube with a sterile 0,9% NaCl solution, bringing the inoculum density to exactly 0.5 according to the McFarland standard. The inoculum was used within 15 minutes after preparation.

Conducting the analysis: For testing, a solution of standard sample C1 from the drug "Syntomycin" vaginal suppositories produced by Nizhpharm, Russia and solution of test sample II of the drug "Citeraz" suppository. On the frozen surface of the agar, holes were made in the center with a glass cylinder. Introduce or study drugs in the indicated concentrations in six Petri dishes.

*Incubation:* The dishes were placed in a thermostat at a temperature of  $(36 \pm 1)^\circ \text{C}$  for 18-24 hours.

After incubation in a thermostat, the zones of inhibition of the growth of microorganisms formed by the compared solutions were measured with a microbiological ruler with an accuracy of 1 mm. The microbiological activity of the compared drugs was assessed based on the size of the zones.

The obtained data were statistically processed using the STATISTICA program for Windows 95.

After incubation in a thermostat, the zones of inhibition of microbial growth formed by solutions of the compared drugs were measured using a microbiological ruler with an accuracy of 1 mm. The microbiological activity of the studied drugs was assessed by the size of the zones.

The data obtained show that the size of the zones of inhibition of the growth of microorganisms under the influence of the studied substance the drug "Citeraz" is 1.7 times less compared to the drug "Syntomycin" vaginal suppositories produced by Nizhpharm, Russia. The results of the experiment are shown in Table 2.

**Table 2**

**Zones of suppression of microorganism growth under the influence of investigational drug "Citeraz" suppositories**

Drugs	Concentration Solution	Zones of inhibition of microorganism growth, mm
		St. aureus
"Citeraz" suppositories	And 1	23.0 ± 0.4
" Sintomycin " vaginal suppositories produced by Nizhpharm, Russia	C1	40.0

Thus, the antimicrobial effect of the drug "Citeraz" - suppositories (village Sample 01, this year 3 years), developed at the Department of Organization of Pharmaceutical Production and Quality Management of Medicines TashPharmI, has been studied and shows that the drug has an antibacterial effect.

**Conclusions.** Experimentally studied specific activity of the drug "Citeraz" - suppositories (village Sample 01, 3 years this year) , developed at the Department of Organization of Pharmaceutical Production and Quality Management of Medicines TashPharmI showed that the drug at the studied dose of 1250 mg/kg has antimicrobial and antihistamine activity .

### **Literature:**

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