

conducted. 99 volunteers who had experienced Phase I clinical trials or bioequivalence study were taking part in this interview.

**Results.** The analysis of the obtained data on age and gender showed that 50,51% of volunteers were men, 49,49% - women; the age of most men was 18-25 years and for women it was more than 40 years; the least number of volunteers were 25-30 years old. Most respondents have higher education (57,58%) and are employees (41,41%); 22,22% are students; 26,26% were taking part in trials the first time and 41,41% usually participate in clinical researches once a year. Further we analyzed the impact of age, gender, education, occupation frequency of participation and number of participations by the volunteers' attitude to some sides of trials. With the help of the statistical analyze ANOVA it was found that the criterion of age significantly affects on the volunteers' relation to the pharmacological group and dosage form of drug, number of hospitalization days, opportunity of side effects' emergency. Interestingly that opinion of volunteers aged 35-40 years was different from the other age groups. The criterion of frequency of participation in clinical trials has influence on the volunteers' relation to the opportunity of side effects' emergency. One of the questions in the form dealt with the importance of developing a compensation system for the inconveniencies that can account for discomfort of healthy volunteers during the clinical research. Almost all the volunteers (97,98%) answered positively for this item.

**Conclusion.** As a result of the conducted survey important aspects of planning clinical trials that dealt with discomfort level for volunteers were identified. In plans we have expanding this analyze and making correlation on ratio experts' opinions that conduct such trial and volunteers.

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### **COMBINED ACTION OF GATIFLOXACIN WITH ESSENTIAL OILS ON STAPHYLOCOCCI**

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**Introduction.** Staphylococci are the most common agents of infectious processes in the Surgery and Gynecology department. High prevalence of antibiotic resistance among staphylococci is associated with negative results of treatment leading to an increase in morbidity and mortality. Many infections (wound infections, gynecological infections) require combined use of systemic and topical antibiotics. Fluoroquinolones are systemic antibiotics with high antimicrobial activity against staphylococci. Some essential oils (Eos) also possess antimicrobial properties. Their advantage for topical use is not only antimicrobial activity of essential oils, but also their anti-inflammatory, and immune-modulatory properties. During systemic use, antibiotics are excreted in the site of inflammation with exudates in wound infections or vaginal secretions in gynecological infections. Because of this, it is important to know the effects of combining use of systemic antibiotics and used Eos. The purpose

of this work was to study the antibacterial action of EOs in combination with fluoroquinolone gatifloxacin against staphylococci.

**Material and methods.** Activity of gatifloxacin and 9 EOs (bergamot, clove, eucalyptus, juniper, lavender, lemon, silver fir, tea tree, and thyme) was studied by disk diffusion and serial dilution methods. Nutrient media contained sub active concentrations of gatifloxacin (1/4 of minimal inhibitory concentration); diameters of zone inhibition and minimal inhibitory concentrations (MIC) of oils were measured. One reference strain (*Staphylococcus aureus* ATCC 25923) and 20 clinical isolates of staphylococci were used. Statistical analysis included calculating mean value and standard error of the mean, comparison of groups was performed by U-test Mann-Whitney.

**Results.** Disk diffusion method showed high activity of thyme oil in the presence of gatifloxacin on referent strain *S. aureus* ATCC 25923. The diameter of zone inhibition was enlarged from 28.3a 0.52 in absence of gatifloxacin to 30.5a 0.55 in presence of gatifloxacin ( $p=0,003$ ). Serial dilution method proved synergy action between gatifloxacin and thyme oil. In the presence of sub active concentration of gatifloxacin MIC of thyme oil was increased in  $13.09\pm 3.21$  times.

**Conclusion.** Thyme EO has synergy action with gatifloxacin in vitro towards staphylococci and can be recommended for local use in patients with wound or gynecological infections caused by staphylococci, and systemically treated with gatifloxacin.

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### **IMMUNOHISTOCHEMICAL CHANGES IN PERIPHERAL LYMPH NODES AT SECONDARY CHRONIC INFLAMMATION**

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**Aim.** Study of the features and regularities immunohistochemical changes in peripheral lymphnodesatsecondary chronicinflammation.

**Materials and methods.** The work was carried out on 68 rats of Wistar line with weight of 180-200 g. The model of inflammation consists of secondary chronic carraghenen aseptie inflammation caused by induced by hypodermic injection of 10 mg carraghenenin 1 ml of isotonic solution of NaCl. The state of lymphnodes was investigated in dynamics of inflammation, from 6<sup>rd</sup> hour up to 28<sup>th</sup> day, on paraffine sections of 5-6 mcm by indirect and direct methods by Kunsu on technique by Brosman. The immune cells were differentiated with the help of monoclonal antibodies to various clones of cells: CD3 (common population of T-lymphocytes), CD45RA (commonpopulation of B-lymphocytes), CD8 (T-supressors/cytotoxic), CD4 (T-helpers), ED1 (macrophages/monocytes), as well as antisera to IgG and IgE.

**Results.** Immunohistochemycal researches testify to the active immune response in lymphnodes to antigen influence developingand reaching a maximum by 10th day. Activation of the immune response is expresser in reduction helper activity, which is testified byincrease in CD4 population and relative strengthening in CD8 population. increase B-lymphocytes number, as well as in strengthening IgE and IgG production. at expressed macrophage reaction.