

# **SIDE EFFECTS OF MODERN CHEMICAL DISINFECTANTS AND ANTISEPTICS. PART 3. ALLERGIC AND NON-ALLERGIC EFFECTS DUE TO THEIR TRANSDERMAL PENETRATION INTO THE BODY**

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**Abstract.** The collection, synthesis, systematization and analysis of information (48 articles, mainly from the last 10 years) regarding the allergenic and non-allergenic effects of disinfectants (D) and antiseptics (A) through the transdermal route of entry into the body was carried out. It has been shown that these compounds are toxic and upon contact with skin cause side effects, including allergic ones.

**The aim of the study.** Search, collection, synthesis, systematization and analysis of information, mainly over the last 10 years, about the allergenic and non-allergenic effects of disinfectants and antiseptics through the transdermal route of penetration into the body. Classification of the material in accordance with the chemical structure of D and A.

**Materials and methods.** Literary search for information, its analytical study and discussion.

**Results.** 48 scientific articles were found, summarized and systematized, which covered the allergenic and non-allergenic effects of disinfectants and antiseptics through the transdermal route of entry into the body.

**Conclusions.** D and A (aldehydes, peroxide and chlorine-containing compounds, alcohols, quaternary ammonium salts, guanidine derivatives) are hazardous chemicals (mixtures of substances). D and A after penetration through the skin, with the flow of blood spread throughout the body — some of them (in nanoconcentrations) were even found in human milk. Considering the slow rate of penetration through the skin, constant biodestruction and excretion from the body, the concentrations of substances that enter transdermally are insufficient for rapid and severe hypersensitivity reactions (such as anaphylactic shock). However, the concentrations are high enough to cause non-allergic and delayed allergic reactions directly on the skin when in contact with the skin in the form of dry components, solutions or aerosols: dryness, itching, cracking, redness, irritation, chemical burns, contact urticaria, irritant allergic contact dermatitis, erythema, granular parakeratosis, eczema.

**Key words:** disinfectants, antiseptics, allergy, irritant and allergic contact dermatitis.