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TOPICAL RETINOIDS IN THE TREATMENT OF ACNE

Ryabova Oksana,

Ph.D., Associate Professor
National university of Pharmacy

Kashuta Viacheslav

Ph.D., Associate Professor
National university of Pharmacy

Acne is the most common skin disease in the world. Acne usually begins in puberty and affects many adolescents and young adults. Approximately 85 % of people between the ages of 12 and 24 experience at least minor acne. Acne affects the psycho-emotional state of patients, their social adaptation, and treatment of acne leads to significant economic costs. Acne vulgaris is a common chronic skin disease involving blockage and/or inflammation of pilosebaceous units (hair follicles and their accompanying sebaceous gland). Acne develops from the following factors: follicular epidermal hyperproliferation with subsequent plugging of the follicle, excess sebum production, the presence and activity of the commensal bacteria *Cutibacterium acnes* (*P. acnes*), and inflammation. Acne can present as noninflammatory lesions, inflammatory lesions, or a mixture of both, affecting mostly the face, back and chest [1-4].

In today's guidelines, topical retinoids are recommended for the treatment of acne. Topical retinoids are comedolytic and anti-inflammatory. They normalize follicular hyperproliferation and hyperkeratinization. Topical retinoids reduce the numbers of microcomedones, comedones, and inflammatory lesions. Topical retinoids should be initiated as first-line therapy for both comedonal and inflammatory acne lesions and continued as maintenance therapy to inhibit further microcomedone formation. There are tretinoin, isotretinoin, adapalene, tazarotene, trifarotene among topical retinoids [1-4].

Tretinoin is used in the form of 0.05-0.1% cream, 0.05% lotion or 0.1% solution for the treatment of acne. The use of tretinoin is limited by side effects: dryness, photosensitivity, peeling, erythema, and itching of the skin [3].

The adapalene molecule selectively binds to the nuclear γ -receptors of the retinoic acid of the sebaceous hair follicle, which leads to a decrease in the coherence of keratinocytes and accelerates their desquamation. The anti-inflammatory activity of adapalene is due to a decrease in the formation of interleukin-1 α , -8, tumor necrosis factor- α , leukotriene B4. Adapalene is used in the form of 0,1%-0.3% gel, 0,1% cream, 0,1% lotion for the treatment of acne [5].

Tazarotene inhibits microcomedon formation. It has anti-inflammatory and immunological properties. Tazarotene is available as a cream, gel or foam. Cream 0.1% indicated for acne vulgaris and gel 0.1% indicated for mild-to-moderate acne

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vulgaris; whereas, foam 0.1% indicated for moderate-to-severe acne [3].

Trifarotene is an agonist of retinoic acid receptors (RARs). The stimulation of the RAR results in modulation of target genes that are associated with various processes, including cell differentiation and mediation of inflammation. Trifarotene is available as 0.005% cream [6].

These retinoids should be applied once daily to clean, dry skin, but they may need to be applied less frequently if irritation occurs. Skin irritation with peeling and redness may be associated with the early use of topical retinoids and typically resolves within the first few weeks of use. The use of mild, nonirritating cleansers and noncomedogenic moisturizers may help reduce this irritation. Do not prescribe retinoids simultaneously orally and topically, combine with ultraviolet radiation, drugs with keratolytic action. It is necessary to carefully apply the drug to sensitive areas of the skin. For safety reasons, the use of topical retinoids in pregnant women should be avoided, especially in the first trimester [1-6].

Thus, topical retinoids are recommended for the treatment of acne as first-line therapy for both comedonal and inflammatory acne lesions.

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