

TREATMENT OF POSTACNE USING THE COMBINATION OF TRICHLOROACETIC PEELING AND HYALURONIC IMPLANT: A CLINICAL CASE

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ABSTRACT

Aim: to evaluate the efficiency of post-acne treatment using the combination of trichloroacetic peeling and a hyaluronic acid implant. Peeling with trichloroacetic acid belongs to the category of medium peels that penetrates the epidermis and reaches the basal membrane - the border between the epidermis and the dermis. Sometimes the papillary layer of the dermis is also burned out. Fillers are injectable dermal fillers that are widely used to correct cosmetic defects. The prescribed combination of peeling and hyaluronic acid gives a good therapeutic effect, since trichloroacetic acid eliminates persistent defects (dyschromia, scars), creates a uniform color, and hyaluronic acid fills in atrophic changes and moisturizes the skin.

Results: we present a clinical case where acne scars were corrected with a course of the systemic retinoids followed by TCA peeling and hyaluronic acid filler. The treatment enables to reduce the size of atrophic scars, makes skin smoother and evens the skin tone.

Conclusion: This clinical case can be interesting for dermatologists, since it confirms the efficiency of using hyaluronic acid fillers and TCA peeling in post-acne therapy.

Keywords: acne, post-acne, atrophic scars, dyschromia, trichloroacetic peeling, hyaluronic acid, filler

INTRODUCTION

Acne vulgaris (acne vulgaris) is a chronic inflammatory disease that manifests itself with open or closed comedones, as well as inflammatory skin lesions in the form of papules, pustules, and nodules [4].

Currently, acne is one of the most common dermatological disorders in the younger generation. According to the statistical database, the main age group is 12-25 years old. In most cases, acne resolves on its own by the age of 18-20, but post-acne manifestations can persist for a longer time [7].

According to the modern classification, there are: comedonal acne, papulopustular acne of mild and moderate severity, severe papulopustular acne, nodular moderate and severe acne, as well as conglobate [6]. The most severe form is acne conglobata, which in the process of involution leave scars and persistent skin dyschromia [2].

The main manifestations of post-acne include: cicatricial deformities, post-inflammatory hyper- and depigmentation, congestive erythema. Most commonly, post-acne scars have an atrophic character, and their severity is not always associated with the severity of the pathology [7].

Atrophic scars appear as superficial or deep defects and occur when the skin is unable to regenerate enough tissue to repair them. Histologically, scars are the atrophy of the skin and deep adipose tissue with loss of collagen and elastin, which leads to downward tension of the epidermis [5].

According to the pathogenetic theory, post-acne scarring is associated with impaired metabolism of MMPs metalloproteinases (proMMP-1, proMMP-9, MMP-1, MMP-2, MMP-9, MMP-13), which are responsible for the structure of the extracellular matrix. Moreover, the cell wall peptidoglycan plays a crucial role in the formation of atrophic scars, which enhances the degradation of the extracellular matrix [7].

A prompt treatment corresponding to the severity of the disease, an integrated approach and the cooperated work of experienced specialists, the patient's adherence to the prescribed recommendations, allow achieving the most effective therapy and reducing the severity of post-acne manifestations [7].

One of the modern methods of post-acne correction is the use of hyaluronic acid based filler [1]. The main advantages of this method include: long-term effect (up to 12-18 months), the simplicity of application, and low risk of complications [9].

The implant is a sterile non-pyrogenic gel of cross-linked hyaluronic acid of non-animal based origin. The drug is administered subdermally in the area of the atrophic cicatricial changes, restores the lost volume and smoothes the skin surface [8]. These fillers can be used as monotherapy or as a combination with other treatments for more promising results [3].

Hyaluronic acid stimulates collagen synthesis approximately 3 weeks after injection, which improves the structure and texture of the skin [8].

CLINICAL CASE

We present a clinical case of a patient with post-acne.

Patient I., 27 years old, in October 2020 consulted a dermatologist in the medical center complaining about rashes.

History of the disease: For the first time, skin rashes appeared at the age of 17. The patient independently applied external agents based on azelaic acid, adapalene, without any clinically significant results. In 2020 the rashes spread all over the entire skin of the face and were accompanied by soreness. After the examination, conglobate acne was diagnosed.

Dermatological status: The pathological process is localized on the facial skin (forehead, chin, cheeks). Prevalence - disseminated, inflammatory reaction - acute. The pathological process is represented by nodules of bright red color with a blueish shade, which are 1 to 2 cm in diameter, hemispherical shape. They merge with each other to form extensive infiltrates; greenish-yellow pustules, with regular rounded outlines, clear boundaries, located against the background of erythema.

The patient was prescribed the following treatment: Isotretinoin 40 mg per day according to the treatment regimen with the gradual cancellation of the drug within 11 months, clindamycin 150 mg 4 times a day orally for 10 days, fluconazole 150 mg (1 capsule every 5 days - 3 capsules)

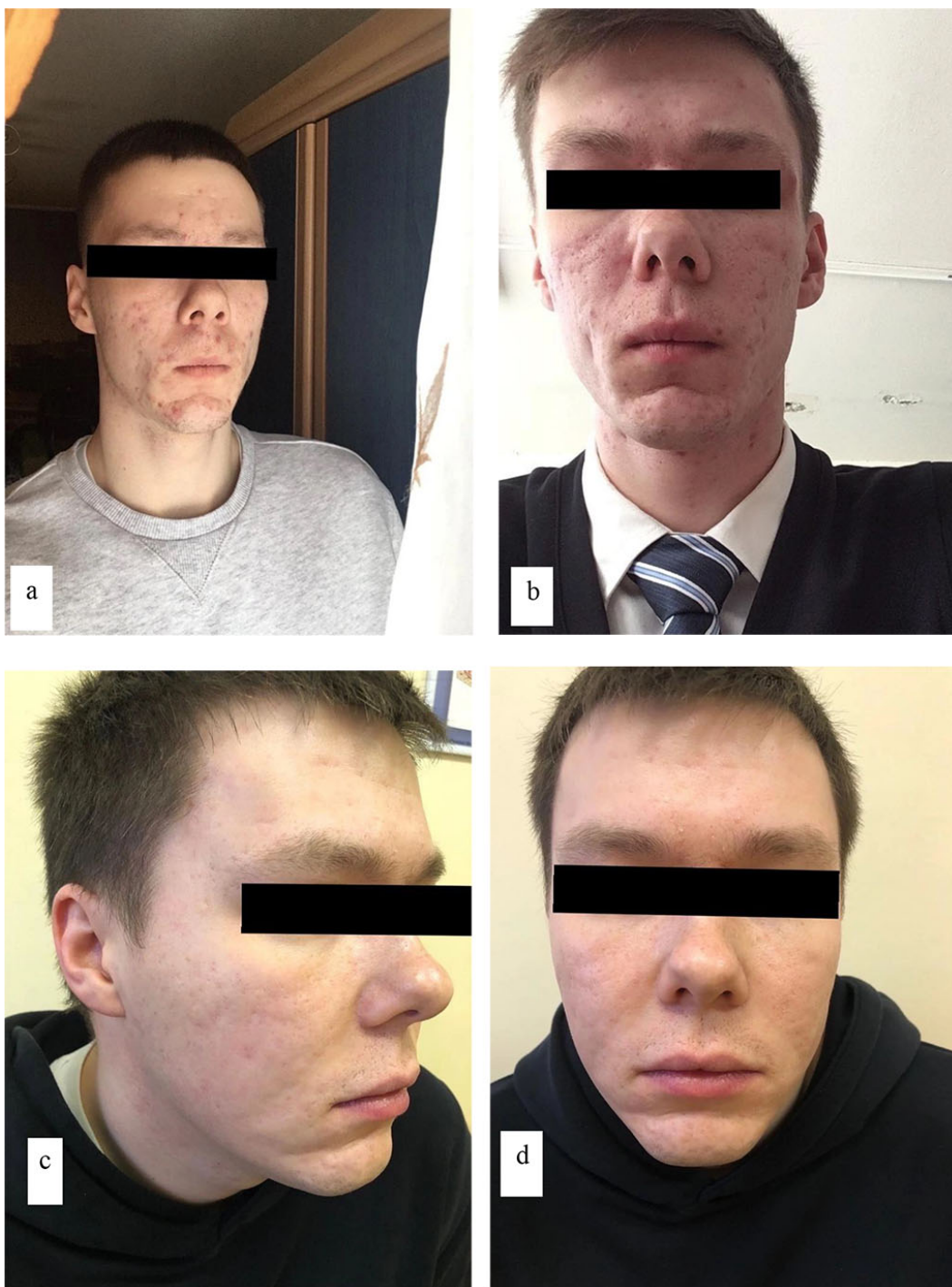
External treatment: 1% clindamycin gel once a day for 3 months and moisturizing cream for 10 months.

As a result of the course of therapy nodules and pustules completely resolved. Post-acne manifestations in the form of dyschromia and atrophic scars remained on the skin of the face. The patient used 15% trichloroacetic (Medic Control Peel, Russia) peeling 1 time for a month, the course of which consisted of 3 procedures to correct the secondary elements. A hyaluronic acid-based filler ("Juvederm" Allergan USA); density 24 mg/ml was used to align the skin relief. The drug was administered intralesionally monthly during 4 months).

CONCLUSIONS

After the course of therapy, the patient had a resolution of dyschromia, increased skin elasticity and turgor, reduced skin dryness, minimising relief and smoothing scars. The obtained result was maintained for 12 months of the observation.

This case is of interest to dermatologists, since it illustrates the possibility of using fillers with hyaluronic acid and trichloroacetic peeling as an effective treatment for acne scars.



*The patient (I) before the treatment (a, b)
The patient (I) after the treatment(c, d)*

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