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Description of the variables in the execution of a chemical peel

1. The type of substance is an important factor to consider as not all peeling agents are able to penetrate beyond the basement membrane (for example, salicylic acid), while others succeed in doing so only after a long time (for example, mandelic acid).

2. The concentration of the substance may result in different penetration ability of the peel, both with molecules suitable for a soft-peel (for example, glycolic acid) and with those suitable for a medium peel (for example, TCA), so it is good practice to use the concentration that best suits the desired type of peel to be practiced.

3. The number of passes influences the depth of the peel: the greater the quantity of substance applied, the deeper the action of the peeling practiced.

4. The application technique determines a variability in the depth of the peel performed: if the skin is rubbed or stretched, or if friction is created by rubbing two cotton swabs soaked in the chosen chemical agent along the skin a deepening of peel in relation to the molecule used, the type of skinto be treated, and the imperfection to be corrected.

5. At-home skin preparation, with prescribed cosmeceuticals based on the imperfetion to be corrected, and type of skin for one to two in combination with preparations a based on glycolic acid and/or retinoids, determines an optimization of the subsequently practiced peel, which as a consequence will be homogeneous both in its distribution on the surface and in its depth of action.

to rule out hormonal causes for the acne were ordered. We decided to prescribe a cycle of soft peels with 70% glycolic acid.
The treatment plan includes the following steps.

- Cleansing with glycolic acid pre-peel.
- Even application of glycolic acid all over the face proceeding by aesthetic area.
- Neutralization using water and bicarbonate at the first sign of erythema.

CLINICAL CASE 1
A-B) Acne in its active stage before and after a glycolic acid peel.
C) Follow-up three years after completing in-office treatments

CHAPTER 3

Salicylic acid

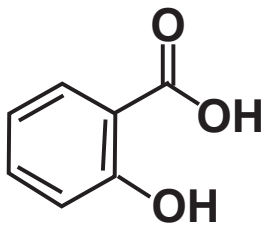


Figure 4 O-hydroxybenzoic acid

Salicylic acid is a colorless crystalline carboxylic acid. It is toxic if ingested in large quantities, but is useful for food preservation when used in small quantities.
By adding an acetyl functional group in reaction to the alcoholic -OH end, it forms acetylsalicylic acid, also known as Aspirin. It enerates free radicals by reacting with oxygen. Salicylic acid is the essential component of some products used for the treatment of skin condtions such as acne, keratosis pilaris and warts. It can also be used in the treatment of psoriasis in order to eliminate desquamation and thus facilitate topical treatment.
The healing properties of salicylic acid have been known since ancient times, so much so that the substance was extracted from the willow plant, from which its name derives. Its use as a peeling agent is thanks to the famous American dermatologist Albert Kligman, who devised a peel preparation with 30% salicylic acid in an alcoholic solution.
Salicylic acid is now a well-known peeling agent, with numerous indications (epidermal melasma, mild moderate acne, mild photoaging, hyperkeratosis, papillomatosis. From a chemical point of view it is classified as a beta-hydroxy acid, a hydroxylated derivative of benzoic acid. The most common preparations include salicylic acid at 25-30% in alcoholic solution. There are also other preparations with a non-alcoholic base. These formulations are less effective, but are better tolerated by patients.
Its exfoliating action is achieved through corneolysis, with an intraepidermal peeling effect. It is possible to modulate the depth of its action through a simple multi-layered application on the skin. The neutralization of salicylic acid occurs with the evaporation of the alcoholic phase, which leaves characteristic salts on the skin that are whitish in appearance.
In addition to the side effects linked to peeling agents (erythema, burning, exfoliation, discromias), salicylic acid can cause hypersensitivity reactions after repeated applications: thus phenomenon seems to be partly due to the alcohol solvent. The use of solvents of a different nature reduces the incidence of adverse reactions. It is also possible to use salicylic acid in the context of combined peels in formulations with specific indications (with azelaic acid for the treatment of acne).

CLINICAL CASE 3
A) Before the salicylic acid peel.
B) Immediately after the peel (note the whitish film from the deposition of the now inactive acid due to the evaporation of the alcohol).
C) In full exfoliation (fourth day).
D) Almost completely healed (seventh day)

VIDEO 3.2
Nanostructured 25% salicylic acid peel

Application method

Treatment of acne vulgaris

A 22-year-old patient, suffering from acne vulgaris for about seven years (clinical case 4). The patient had only previously used at-home topical therapies, antibiotics in cream, gel or lotion as well as benzoyl peroxide, and systemic therapies with cycles of antibiotics. The patient had only benefited from modest and transitory improvements.

Considering the type of lesions present, the long duration of the patient's pathology, and resistance to traditional therapies, we decided to treat the patient with a cycle of chemical peels with salicylic acid: seven spaced peels performed at three-week intervals. In addition, at-home topical therapy specific to the type of skin and the type of lesions presented was prescribed.

The treatment plan includes the following steps.

- Cleansing with pre-peel: 25% salicylic acid peel on the entire face proceeding by aesthetic unit, and waiting until the the burning in the area treated has stopped (which means that the acid has self-neutralized due to the vaporization of the alcoholic phase and consequent deposition of the inactive substance). The acid can be passed two or three times on the active lesions.
- Application of a soothing mask.
- Application of a soothing cream with a photoprotective factor.

In the days following the peel, the patient noticed a furfuraceous or lamellar exfoliation in relation to the concentration of the peel and to the area of skin treated.

Seven days of home therapy with cleanser, tonic and cream suitable for acne-prone skin, and benzoyl peroxide formulation to be used on active lesions was prescribed in addition to photoprotection with preparation suitable for the patient's skin type (worsening of the patient's clinical condition would have occurred if the photoprotective cream contained water in oil).

New peels were performed every two to three weeks.

After the fourth peeling session, the patient was satisfied with the disappearance of the active acne lesions. She suspended the peeling treatments and only continued with at-home therapy.

CLINICAL CASE 4
A-B) Patient before and after four 25% salicylic acid peels


C
D

CLINICAL CASE 1
A-B) Patient before and after five treatments with High Potency Peel

CLINICAL CASE 2
A-B) Patient before and after the booster peel

Treatment of adult-onset acne

A 27-year-old patient came to our office because she noticed the onset of acne over the previous six month (clinical case 4). She had previously used the usual at-home therapies, with a cleanser, a sebum-normalizing gel, benzoyl peroxide on the lesions and a purifying cream. She saw good, but transient benefit, as the dermatosis soon recurred.

We ordered an endocrine and gynecological check-up, for the patient, already a mother of two children, in order to exclude hormonal imbalances. When the results of these exams came back negative, we decide to treat the patient with a cycle of peels that were efficient in treating active acne lesions useful in improving acne scars.

The treatment plan includes the following steps.

- Cleansing with a glycolic acid pre-peel.
- Application of the peel on the entire face by esthetic unit with a brush.
- Neutralization of the peel with water and bicarbonate.

In the following days the patient felt an initial dryness of the skin and noticed subsequent furfuraceous exfoliation. The exfoliation process lasted for three to five day. During this time period, the patient only applied a soothing restructuring cream with very high photoprotection. Subsequently the patient used specific home therapy with:

- an active detergent with glycolic acid;
- a therapeutic tonic with pyruvic acid;
- benzoyl peroxide on active lesions;
- a day cream for seborrheic skin with photoprotection;
- a night cream with substances aimed at treating seborrhea and acne.

After fifteen days the patient underwent a second peel, and continued the process for a total of five sessions. At the end of the cycle the patient noticed:

- an almost complete disappearance of active acne lesions;
- a reduction of scarring;
- a decisive improvement in skin texture.

The patient was satisfied and continued with home therapy alone with the understanding that in case of recurrence, she would immediately have to undergo another peeling cycle.

CLINICAL CASE 4
A-B) Patient before and after five peeling sessions

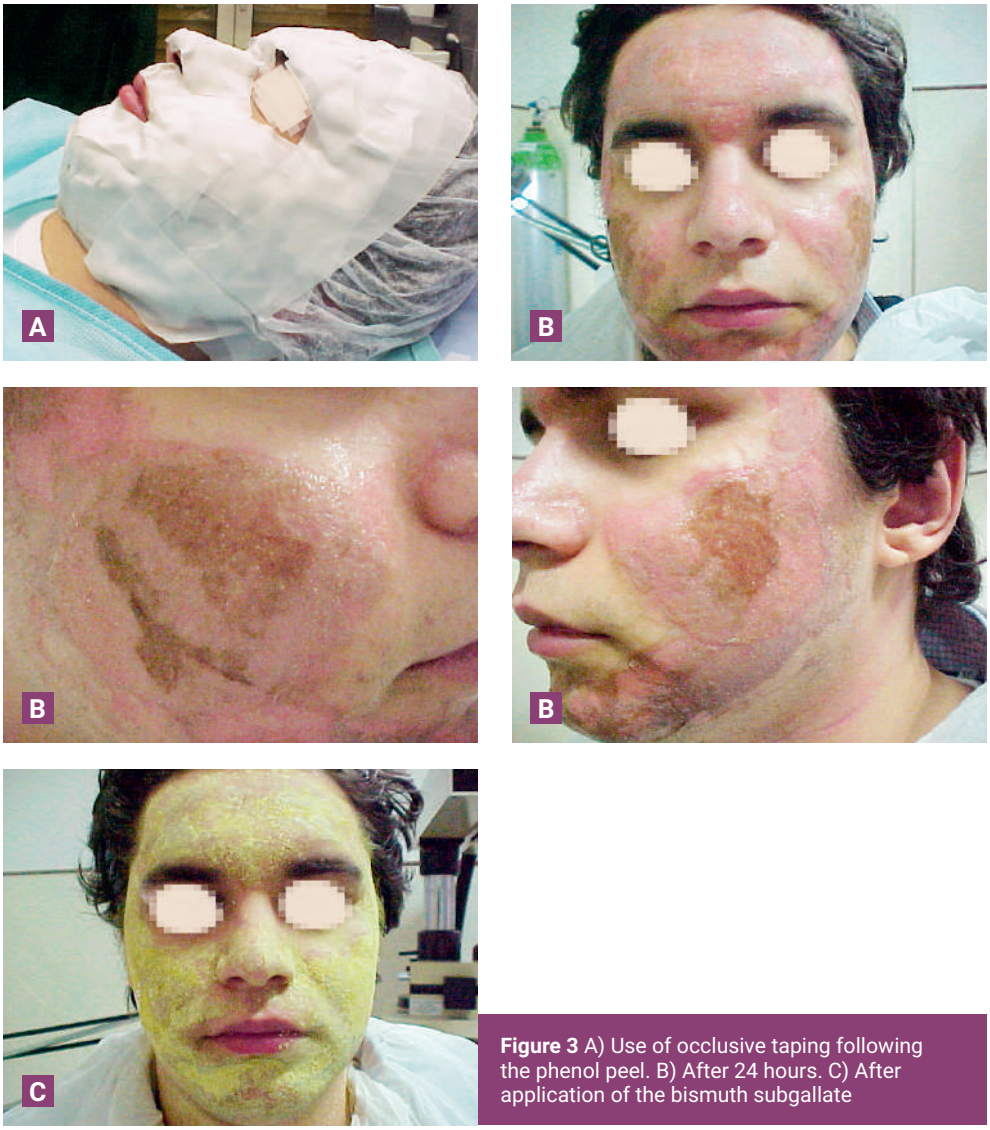


Figure 3 A) Use of occlusive taping following the phenol peel. B) After 24 hours. C) After application of the bismuth subgallate

As a home treatment, a restructuring cream is used, as well as very high photoprotection.
Indications of phenol peel are:
- severe photoaging;
- significant acne scarring.

If performed well, the peel, especially in the Exoderm by Fintsi formulation, determines a very notable rejuvenation effect of the skin, with a decrease in the caliber

Phenol 30% + TCA 12%

This preparation is always applied by cosmetic unit, pausing for 10-15 minutes between application to two sequential areas of facial skin. We use two cotton wads soaked in the peeling solution, and we rub on the skin until a whitish-grey frost forms. During the timed pauses, a soothing cream from the kit and bismuth gallate powder are applied. The patient must continue to apply both the soothing cream abd bismuth gallate powder at home for seven days following the peeling. On the seventh day the "mask" is removed.The post-peel protocol is identical to that of the 60% phenol formulation.

Treatment of severe facial photoaging

A 45-year-old patient comes to our observation to correct severe facial photoaging (clinical case 2). She loves the sun, she does not use topical or systemic photoprotection, she does not use cosmeceuticals, but cosmetics from large retailers. She is smoker.

We decide to practice a phenol peel, using the 60% phenol in the periorbital and eyelid region, as well as on the "bar code" wrinkles of the upper lip, and the 30% phenol formulation on the rest of the face.

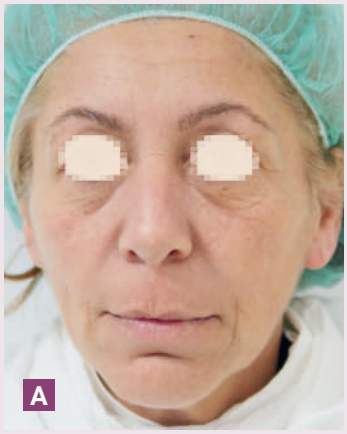
The treatment plan includes the following steps.

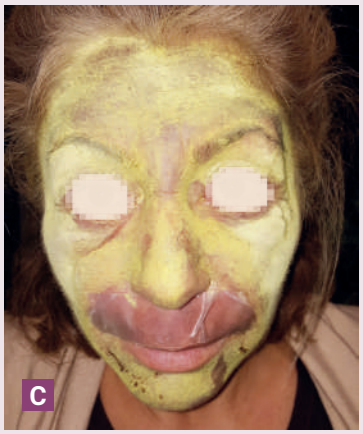
- Cleansing with acetone.
- Application of the 60% phenol formulation on the areas previously described, using a cotton wad soaked with 3 drops of solution, which must be rubbed on the areas to be treated (two applications on all areas, except for the upper eyelid, where only one application should be applied, which limits the depth of the peel to the upper layers of the skin.
- A post-peel cream and bismuth subgallate powder is applied to all the above treated areas, except for the upper lip, where a transparent occlusive patch must be applied.
- After a 10-minute pause, to avoid a systemic phenol overdose, the 30% phenol formulation is applied to the rest of the face, with two cotton wads, working by aesthetic unit.
- During the 10-minute pause between treatment one unit and the next, a post-peel cream and bismuth subgallate powder are applied on the previously treated areas.

The next day the patch is removed from the upper lip and cream and powder are applied to this area.

The patient is seen after 7 days, the powder and cream are removed with vaseline ointment. The patient came for a follow-up visit 15 days later, and we noticed a hyperchromia which, luckily, was only transient.

We saw the patient again after 7 months. The satisfied patient then received treatment with filler and a vial of botulinum toxin.

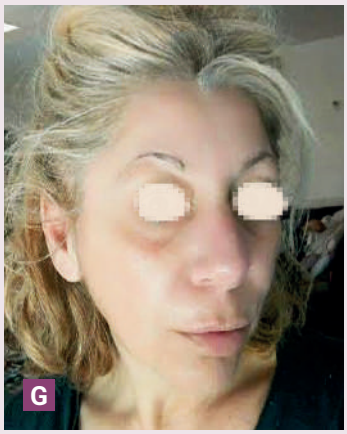




CLINICAL CASE 2


D


E



CLINICAL CASE 2
A) Patient before the treatment. B) Immediately after the peel. C) After 24 hours. D) After 7 days. E) After 15 days. F) After 21 days. G) After 7 months