BIODERMA
CONGRESS **REPORTS**

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Symposium: Combination treatment in aesthetics

Coordinators: Dr Maria de Fatima Agüero De Zaputovich, Dr Angélica María Domínguez Duarte

Speakers: Dr Maria de Fatima Agüero De Zaputovich, Dr Denise Steiner, Dr Javier Ruiz Ávila, Dr Angélica María Domínguez Duarte, Dr Natalia Jiménez, Dr Ingrid López Gehrke.

My favourite combination in the periocular area

Speaker: Dr Denise Steiner

Dr Steiner highlighted the importance of the periocular region as one of the main focuses of facial ageing due to its specific characteristics, such as thin skin, dilated vessels, accentuated pigmentation, sagging and expression lines. Furthermore, the presence of fat bags and dark circles under the eyes make this area even more challenging for reversing ageing.

Main changes addressed:

- **Dark under-eye circles**
- **Fat bags**
- **Sagging and wrinkles**

Dr Steiner's favourite techniques and combinations:

- **Filler + bioregenerator**
- **Filler used:** cross-linked hyaluronic acid

It is applied to deep layers with cannulas to avoid only reaching the surface and to ensure a natural appearance. Slow movements and small amounts are essential to avoid irregularities.

Bioregenerator: PDRN (polydeoxyribonucleotide from salmon sperm)

Benefits:

- Anti-inflammatory properties
- Increases tissue thickness
- Modulates collagen stimulation
- Repairs cells (acts on senescent cells)

Result:

- Improves skin texture and reduces sagging and dark under-eye circles
- Filler and bioregenerator can be applied in the same session to optimise results

Phenol-croton peel + botulinum toxin

- **Phenol peel:**
    - It causes controlled chemical injury, renewing the entire epidermis and promoting neocollagenesis in the reticular dermis.
    - Solution composition (Hetter):
    - Set composition: 5.5 ml water + 0.5 ml compatible soap = 6 ml
    - Variable composition: 88% phenol + stock solution (1 ml croton oil + 24 ml 88% phenol) = 4 ml
    - Case study: 2 ml 88% phenol + 2 ml stock solution = croton oil concentration = 0.8%
    - Application technique:
    - Use of cotton swabs
    - A homogeneous greyish-white "frosting" must be achieved, indicating the correct depth.
    - Importance of prior skin preparation
- **Botulinum toxin:**
    - Orbicularis oculi muscle; 3 points with 4–5 units for each point

Result: deep renewal of the periocular skin, with a more even texture and reduction of marked wrinkles

The combined techniques presented by Dr Steiner are highly effective in the periocular region, providing visible and long-lasting rejuvenation.

- **Filler + bioregenerator** improves skin structure and hydration – ideal for treating dark under-eye circles and sagging.
- **Phenol-croton peel + botulinum toxin** is indicated for deep wrinkles and severe sagging, favouring significant results with skin renewal.

The holistic approach, with combinations of personalised techniques, reflects an evolution in aesthetic treatment, prioritising natural and safe patient results.

My favourite combination in the perioral area

Speaker: Dr Javier Ruiz Ávila

The presentation highlighted the latest innovations in aesthetic treatments to address visible signs of ageing in the perioral area, as well as the importance of combining techniques and technologies to provide comprehensive results.

Focus areas and common problems

- **Signs of ageing:** sagging, loss of volume, perioral lines (barcode) and nasolabial folds
- **Objective:** to treat these anatomical areas as a whole to improve the harmony in the middle third of the face

Main treatments

1. **Injectable liquid polydioxanone (PDO)**

- Innovation inspired by the traditional use of PDO thread lifts, but now in liquid form for greater versatility.
- Advantages:
    - It stimulates collagen production in the skin, improving its firmness and elasticity.
    - It enables precise applications in delicate areas such as the perioral area and eye contours.
    - It does not increase volume, which is ideal for areas where excess product can be problematic.
- Technique: application with a cannula to distribute the product evenly along the perioral lines

2. **Injectable peptides**

- Peptides such as palmitoyl pentapeptide-4 (Matrixyl), tripeptide-1 and hexapeptide-12, acetyl hexapeptide-8 (Argireline), and others (oligopeptide-24, decapeptide-4, copper tripeptide-1, acetyl tetrapeptide-5, acetyl decapeptide-3) are used to:
    - Regenerate the skin and smooth expression lines.
    - Stimulate growth factors without creating muscle paralysis, maintaining natural expressiveness.
- **Application:** line by line with a needle for precise and natural results

3. **Hyperdiluted botulinum toxin (1:6)**

- Uses:
    - Relaxation of perioral lines with specific dilutions to avoid complete paralysis
    - Provides softness without limiting muscle function.
- Key points:
    - 4 units on the upper and lower lip, distributed in multiple points.

4. **Peels**

- Glycolic (20–30%), lactic (10–20%), mandelic (10–20%) and phenol peels, but each one requires specific training

5. **Combination with laser and intense pulsed light technology**

- Benefits of laser:
    - Improved skin texture and reduction of fine lines in the perioral area
- Intense pulsed light (IPL):
    - Recommended as an initial technological investment for clinics
    - It is indicated for treating sun spots, vascular lesions and improving overall skin tone.

6. **Fractional radiofrequency and microneedling**

- Fractional radiofrequency:
    - Ideal for improving deep wrinkles and promoting dermal regeneration with progressive sessions

- Microneedling (3–5 sessions):
    - Used to apply exosomes, peptides and other regenerative molecules into deep layers of the skin

7. **Skin preparation and care**

- Pre-treatment: use of hydroquinone, kojic acid, vitamin C and hyaluronic acid to prepare the skin
- Post-treatment: regenerative protocols that include peptides and antioxidants to boost results

8. **General recommendations:**

- Training is essential to perform these procedures safely and effectively.
- The use of certified technologies and high-quality products is key to guaranteeing good results.
- A combination of treatments is essential to address ageing from different angles and improve the patient experience.

Conclusion: The presentation provided a holistic perspective on managing ageing in the perioral area, highlighting the importance of personalising treatments and using innovative techniques. The combination of biostimulators, peptides, botulinum toxin, and laser and IPL technologies guarantees satisfactory and natural patient results, promoting patient well-being and confidence.

My favourite jawline and neck combination

Speaker: Dr Angélica María Domínguez Duarte

The conference addressed ageing in the neck and jawline, which are key areas for comprehensive facial rejuvenation. She emphasised that, although the face may be well cared for, a neglected neck can give away age. This process involves sagging, loss of bone support, fat accumulation and skin deterioration, factors that require a personalised, multidimensional approach.

Key aspects of ageing in the neck and jawline

- **Anatomical factors:**
    - Loss of bone (maxillary and mandibular) support
    - Muscle and skin sagging
    - Submental and submandibular adiposity

    - Horizontal wrinkles and platysmal bands

- **Deterioration of the skin:**
    - Loss of quality in texture and colouring
    - Appearance of benign lesions such as seborrhoeic keratosis and lentigines

Treatment techniques:

1. Collagen stimulators

- Biostimulators preferred over thread lifts
- Strategic application to redefine jaw contours and improve neck firmness

2. Lipolysis and tightening technology

- **Fractional radiofrequency with microneedling (Morpheus):**
    - Penetration up to 7 mm for lipolysis and tightening effect
- **High-intensity focused ultrasound (HIFU):**
    - Use of modern devices such as Liftera, enabling greater precision and less pain

3. Lipolytic enzymes

- Reduction of submental and submandibular adiposity
- Combination with other technologies for greater definition

4. Botulinum toxin

- Application to platysmal bands, chin and depressor muscles to relax and improve the neck's appearance
- Careful dosing to avoid excessive weakness and antibody formation Generally 12–14 units on each side

5. Dermal fillers

- Use of low-density hyaluronic acid for horizontal wrinkles and jaw definition
- Precise application in small amounts to avoid unevenness
- Seborrhoeic keratoses, dermatosis papulosa nigra, lax fibroids

6. Eliminate skin lesions associated with the ageing process

Skin quality improvements

- **Fractional laser (CO2 or erbium):** improves texture and colouring
- **Intense pulsed light and Nd:YAG:** hyperpigmentation and vascular lesion treatments
- **Prior preparation of the skin:** use of topical products such as vitamin C and hyaluronic acid

Case studies

1. **Patients with good bone support:**
    - Minimal procedures with fractional laser and low-density hyaluronic acid
2. **Patients with advanced sagging:**
    - More powerful biostimulators and combined techniques to produce tightness and firmness
3. **Patients with significant adiposity:**
    - Lipolytic enzymes, radiofrequency and ultrasound to eliminate fat and redefine contours

Take-home basic concepts:

- **Importance of the neck:** The neck should never be neglected, as it is essential for complete facial rejuvenation.
- **Treatment personalisation:** Every patient ages differently; a detailed physical examination and a personalised approach to each case are crucial.
- **Multilayer treatment:** Ageing affects the skin, muscles, fat and bones. The best results come from combining multiple techniques that act on all layers.
- **Holistic approach:** The combination of advanced technologies, biostimulators and skin care provides natural and harmonious results.

With this holistic approach, patients can be provided with visible and satisfying results, improving their appearance and their confidence.

My favourite neckline combination

Speaker: Dr Natalia Jiménez Gómez

The presentation highlighted the exponential growth of non-surgical rejuvenation procedures worldwide, according to recent ISAPS data. From 2019 to 2023, a 40% increase in treatments such as botulinum toxin, dermal fillers and tighteners has been found. However, this attention to the face has created a stark contrast to other areas of the body, such as the neckline, which tend to be neglected despite significant sun exposure.

Anatomical characteristics of the neckline

- **Skin characteristics:**
    - Thinner epidermis and dermis
    - Fewer sebaceous glands, which hinders recovery after treatments
- **Sun exposure:**
    - Area prone to cumulative sun damage. Assessment with prior dermatoscopy is important.
    - Often overlooked in regular cosmetic routines

Advantages and precautions

- **Advantages:**
    - The neckline is an area that can be easily covered, enabling combination treatments with longer recovery times.
    - Improved skin texture and quality visible even after just a few sessions
- **Precautions:**
    - Apply treatments more conservatively, especially lasers and light sources.
    - Adequate overlapping of IPL flashes to avoid the “zebra” effect

Holistic therapeutic approach (360°)

The main objective is to holistically address the different needs of the neckline, from blemishes to sagging. This approach combines treatments for:

1. **Surface area:**
    - Lentigines, telangiectasias and other pigmented lesions

- Preferred combination: Intense pulsed light (IPL) + Q-switched and picosecond alexandrite laser
- Reduction of parameters to avoid complications (15–20%)

2. **Density:**
    - Wrinkles and loss of elasticity
    - Preferred combination: Intense pulsed light (IPL) + platelet-rich plasma (PRP) gel (deep, with 25G cannula, and superficial, in mesotherapy with short 31G needle)
    - Alternatives to PRP: Calcium hydroxyapatite, 1:2 dilution, cross-linked hyaluronic acid or Skinboosters for pronounced wrinkles and large areas, poly-L-lactic acid, dilution of 10–18 ml in 2–3 sessions per year
    - Microfocused ultrasound to tighten the skin
    - Radiofrequency with microneedling to improve texture and firmness
3. **Cosmetic routine:**
    - Adapt facial cosmetic routine to neck and neckline. In the event of nightly retinol application, start with 1 night per week.
    - Increase frequency according to tolerance.
4. **Complementary care:**
    - Supportive nightwear to prevent postural wrinkles
    - LED masks specifically for the neckline area

Focused energies:

Results and clinical examples

Images of real cases were presented showing:

- Reduction of pigmented spots after two sessions of IPL and picosecond laser
- Improved skin firmness and texture with plasma gel and focused energy treatments

Conclusions

- A holistic and personalised approach to the neckline is key to avoid contrast with other rejuvenated areas such as the face.

- Making patients aware of the importance of neckline treatment and offering options tailored to their needs and budgets is essential.
    - Treatment effectiveness does not depend solely on a single technique or substance, but on a strategic combination of therapies.
    - An approach involving **products for injection, transdermal medicinal products and devices** was proposed, maximising results with efficient time use.

This presentation highlighted the crucial role of dermatologists in assessing and treating neglected areas such as the neckline, highlighting current innovations in non-invasive techniques and focused energies.

My favourite combination in the hands

Speaker: Dr Ingrid López Gehrke

This presentation highlighted the importance of holistic aesthetic treatments, not limited to the face, but also in often neglected areas such as the neck, neckline and especially the hands. The dermatologist's mission to inform patients about their overall skin care, including areas that are less visible but equally vulnerable to ageing and sun damage, was highlighted.

How to treat ageing hands?

1. **Products for injection**
    - **Hyaluronic acid:** Ideal to replenish volume gently and naturally. The use of products with a low G' index (stiffness range), which integrate well into the tissues without causing noticeable effects, is recommended.
    - **Biostimulators:** such as polycaprolactone (half a syringe in each hand) and calcium hydroxyapatite, which promote collagen production and provide long-lasting results
    - **Hybrid treatments:** s combination of moisturising and stimulating properties, currently a favourite due to its versatility

Hyaluronic acid – volume replenishment and hydration

- **Application accuracy:** The dorsum of the hands was divided into three compartments (superficial, venous and tendinous). The need to work only in the superficial plane was emphasised to avoid serious complications such as compartment syndrome.
- **Cannula use:** It is preferable to needles, as it allows even and safe product distribution.

- **Importance of avoiding incorrect depth:** Injecting at incorrect levels can cause haematomas, vascular damage or more serious complications, such as tendon infection or inflammation.

Product-specific care

- **Hyaluronic acid:** Apply in superficial layers with cannulas, avoiding visible projections. Ideal for moisturising and mild hand plumping.
- **Polycaprolactone:** Provides long-lasting volume (up to 18 months). Accuracy in dosing is required (max. 0.5 ml per hand) to avoid excessive results.
- **Calcium hydroxyapatite:** recommended diluted to improve skin quality and smooth skin texture without adding significant volume
- Several low-dose sessions were suggested rather than trying to solve all problems in a single session. This minimises risks and optimises results.
- Polycaprolactone treatments usually require one or two sessions per year, depending on the patient's needs.

Treatment duration and treatment frequency

2. **Transepidermal medicinal product administration**
    - **Exosomes:** communication, transfer and regeneration functions. Indicated for skin quality improvement, blemishes, hyperchromia, post-inflammatory hyperpigmentation, rhytides and texture improvement.
3. **Devices**
    - **Intense pulsed light, erbium laser**

Visual results

- Before and after cases were presented, highlighting significant improvements with appropriate techniques.
- In polycaprolactone and hyaluronic acid treatments, natural and long-lasting results were found, even in patients with advanced skin damage on their hands.

Final considerations

- Combination treatments are the key to achieving overall results in rejuvenating and improving the appearance of the hands.
- Correctly using products for injection combined with technology and transepidermal medicinal products are the key.

- Product choice should be based on the practitioner's experience and the specific characteristics of the patient's skin.
- Safety is a priority. Detailed anatomical knowledge and the use of correct techniques significantly reduce the risks.
- The importance of ongoing patient education to maximise treatment benefits was highlighted.

The presentation underlined the relevance of a holistic approach to aesthetic treatments, prioritising safety and customisation according to individual needs. The combination of innovative techniques and products was promoted as the key to achieving effective, natural results. In addition, the importance of including hand care in rejuvenation plans was emphasised. The hands are an area that, although often overlooked, are essential for a harmonious and rejuvenated appearance.

Symposium: A peel for every indication

Coordinators: Dr Elda Giansante, Dr Denise Steiner

Speakers: Dr Gabriela Lydia Ortega Gutierrez, Dr Elda Giansante, Dr Denise Steiner, Dr Felipe Ribeiro da Silva.

Acne peel alternatives

Speaker: Dr Gabriela Lydia Ortega Gutierrez

Dr Gabriela Lydia Ortega Gutiérrez stressed that her objective was to help attendees better understand how to perform chemical peels effectively and avoid complications.

Main points of the presentation:

1. General information on chemical peels:

- **Definition:** Chemical peels are controlled burns that, when applied correctly, can solve multiple dermatological problems.
- **Importance of technical know-how:** The key to success lies in "reading the patient's skin". Although industry indications are useful, practitioners should adjust the procedure according to how the skin reacts.

2. Classification of peels:

Dr Ortega Gutiérrez explained that there are more than 100 types of chemical peels, of which professionals should master at least 10. She mentioned the classification according to:

- **Depth:**

    - Very Superficial
    - Superficial
    - Medium superficial
    - Medium
    - Deep Superficial
    - Never deep, as reaching the reticular layer of the skin can cause irreparable scarring.

- **Mechanism of action:**
    - **Caustic:** It includes trichloroacetic acid (TCA). She mentioned that she does not use it because of its chemical instability, which can lead to complications, such as atrophies.
    - **Metabolic:** It includes alpha-hydroxy acids such as glycolic acid, alpha-keto acids such as pyruvic, retinoic, azelaic, kojic and phytic acids.
    - **Toxic:** (24–53%) resorcinol, salicylic acid and phenol. She pointed out that phenol, her favourite, is advanced and should only be used by experienced professionals.

3. Rules of application:

Dr Ortega highlighted several key points:

- **Rule of 5s:**
    - Peels should not be applied to more than 10% of the body surface in one session. For example, face (5%) and neck (5%) equal approximately 10%. Additional procedures, such as chest or back, should be performed in separate sessions.
    - Toxic peels over large areas can cause systemic poisoning.
- **General treatment protocol:**
    - **Pre-peel:** Prepare the skin before the procedure to minimise risk. In patients with acne, she recommended the use of (0.1%) adapalene for 15 days to open the follicles and optimise the action of the peel.
    - **Peel:** The technique must be precise to avoid blotches or uneven results. It can be done in segments or clockwise.

- **Post-peel:** specific care instructions, such as avoiding sun exposure, using specific creams and not handling the treated areas
- **Re-peel:** 1 month later
- **Maintenance:** customised according to the patient's condition

4. Patient screening:

- **Clinical assessment:** Allergies to ingredients such as salicylic acid or sulfa drugs must be ruled out to avoid cross-reactions.
- **Realistic expectations:** Patients should understand that peels do not replace surgery and require time for visible results.
- **Informed consent:** Patients must be informed about possible side effects, such as burning or erythema, and grant their consent prior to the procedure.

Case reports:

Case 1: Moderate acne with perioral dermatitis:

- 5% liquid phenol was used.
    - Results: Significant reduction of inflammatory lesions and overall improvement of texture.

Case 2: Severe acne with scarring:

- Procedure: 24% resorcinol
    - Results: Improvement in active lesions and scars

Case 3: Patient with mutilated acne:

- Initial treatment with liquid retinoic acid
    - Results: reduction of lesions and scars caused by manipulation

Case 4: Patient with severe acne and serious psychological history:

- Context: suicide attempts due to the emotional impact of acne
    - Progressive treatment with 24% resorcinol.
    - Results: Complete removal of lesions and scars. The patient regained her self-esteem, as evidenced by a change in her social behaviour and social media posts.

Case 5: Superficial peel with intense desquamation:

- Context: patient with appropriate preparation who presented with an intense reaction despite being a superficial peel
    - Results: regenerated skin without scars or complications, showing the importance of preparation

Conclusion: Dr Gabriela Lydia Ortega Gutiérrez emphasised that chemical peels are safe and effective tools as long as they are performed with knowledge, preparation and appropriate protocols. Their use not only improves the skin, but can also transform lives by restoring patients' confidence.

My peel alternatives for melasma

Speaker: Dr Elda Giansante

Melasma is a chronic, recurrent and manageable dermatological condition that significantly affects patients' quality of life. Its treatment is a therapeutic challenge due to factors such as previous treatments, duration and the therapeutic method applied (monotherapy or combination therapy).

Treatment objectives: Reduce the intensity of pigmentation, reduce the extent of affected areas, prevent recurrences and improve the patient's quality of life. Therapeutic proposal

Melasma treatment is divided into four main lines:

- **Photoprotection and topical treatment:** use of sunscreens and oral antioxidants, hydroquinone, glycolic acid and tranexamic acid, etc.
- **Microneedling, chemical peels and PRP**
- **Oral tranexamic acid**
- **Advanced therapies**: combination of pulsed light, laser and other methods

Chemical peels as a therapeutic tool:

Chemical peels consist of applying caustic agents to yield controlled exfoliation of the skin, classified according to the depth reached: very superficial or superficial (epidermis), medium (papillary dermis) or deep (reticular dermis).

Factors to consider in peels:

- **Exfoliating agent**: concentration, technique (manual, brush, spatula, bud, gauze, swab), number of coats applied, frequency and duration of contact
- **Epidermis integrity:** degreasing of the skin, prior preparation of the skin (4 weeks before)

- **Skin thickness**: Skin type, anatomical location. Identification of the patient's phototype to avoid adverse effects such as post-inflammatory hyperpigmentation.

Common exfoliating agents in melasma:

- Glycolic acid: Depending on the concentration (20–70%), it can reach different depths.
- Jessner: depends on the number of layers (superficial or medium), when in combination
- (15–30%) salicylic acid: anti-inflammatory effect, safe for dark skin
- Mandelic acid: less irritating and effective for sensitive skin
- Trichloroacetic acid (TCA): used at different concentrations according to therapeutic need

Application protocol

Initial assessment: medical history, photograph and informed consent

Prior preparation (2–4 weeks): use of topical depigmentation agents such as hydroquinone or glycolic acid

The Jessner peel is one of the most widely used, very practical and safe peels. Higher number of passes, greater depth (4–6), frosting occurs, burning lasts 5–6 minutes, relief with cold air. Increases TCA penetration. Precautions: Not for large areas due to allergy or toxicity to resorcinol and salicylic acid, instability with exposure to light.

Another peel for melasma is retinoic acid (tretinoin), at a concentration of 1–10% in propylene glycol or make-up base. It acts at the cellular level, stimulating collagen synthesis. It stays on for 4–12 hours, produces xerosis and erythema. Exfoliation occurs from the second day onwards. It persists for 2 to 5 days.

The 15–30% salicylic acid peel is very safe in patients with skin type I–VI. As a lipophilic beta-hydroxy acid, it collects in the pilosebaceous unit, and is excellent for acne patients. The crystallisation of the acid on the skin simulates frosting. After application, the skin remains whitish until the acid is removed after 30 to 120 minutes.

The 30–50% mandelic acid peel is also used for melasma. It is an alpha hydroxy acid derived from the hydrolysis of bitter almond extract, and is less irritating than glycolic acid. Gentle application with brush or swab. After 5–15 minutes, erythema, mild pruritus and burning. Remove with water.

The glycolic acid peel is highly erythematous and results in a non-uniform response to application and can lead to necrotic ulcerations. It is not one of the preferred ones, according to this doctor. Neutralisation is mandatory. Pyruvic acid also requires

neutralisation. It is an alpha-keto acid, which is also not a favourite, but it gives very good results in ageing. It works very well on stretch marks.

The 10–50% trichloroacetic acid (TCA) peel is stable and inexpensive; no neutralisation is required. The depth corresponds to frosting intensity. It can be used for superficial, medium and deep peels. Avoid on IV–VI skin due to the risk of post-exfoliation hyperpigmentation.

- For dark under-eye circles: mandelic acid (alone or in combination with thioglycolic acid), TCA 10%, tranexamic acid and 8–10% kojic acid
- For fold hyperpigmentation: Oral salicylic, mandelic and azelaic acids
- Intelligent peels: These are industrialised products with acid combinations, often with good results and mild irritation. Meline, Dark Circles, Intimate, BioAgePeel, IntimatePeel PRO, ZK face and V Carbon System (Hollywood peel) are examples.
- Aftercare: intensive moisturising, strict use of sunscreen and close monitoring Topical corticosteroid: hydrocortisone and cold compresses. Do not pick at scabs. Follow-up appointment very shortly thereafter.

Clinical outcomes: noticeable improvements in pigmentation after several chemical peel sessions

Conclusion: Chemical peels are a safe, affordable and effective technique to treat melasma and other dermatological pathologies. Their success depends on the practitioner's training and appropriately selecting agents and protocols.

"Learning to doubt is learning to think" - Octavio Paz

Deep phenol-croton peel

Speaker: Dr Denise Steiner

- The speaker introduced the topic by addressing the importance of phenol peels for anti-ageing and melasma treatments. Big problem/big solution!
- She recommended that interested professionals learn about the method due to its therapeutic potential.

Mechanisms and results:

- Principles of action:
    - Phenol peels with croton oil cause a controlled chemical lesion, from the epidermis to the reticular dermis.
    - They stimulate cell regeneration and remodel collagen fibres.

    - Croton oil is essential for phenol penetration as it provides greater collagen and elastin compaction.
    - Croton comes from Indonesia and is composed of 37% oleic acid, 19% linoleic acid, 7.5% myristic acid and 1.5% eicosanoic acid. Phorbol esters are responsible for inflammation and increased phenol penetration.

- Clinical results:
    - She showed cases with severe elastosis that were successfully treated.
    - She cited a long-term study in which results were maintained over 20 years.
    - Post-peel histology showed improvements in epidermal thickness, collagen organisation and melanin reduction.

Composition and formulas:

1. Baker-Gordon formula:

- It includes 3 ml of phenol, 2 ml of distilled water, 3 drops of croton oil and 8 drops of soap.
- It guarantees effectiveness due to the high phenol (50%) and croton (2.1%) concentrations.

2. Hetter modification:

- It establishes the "stock solution", which combines 88% phenol and croton oil in precise proportions (1 ml of croton oil + 24 ml of 88% phenol).
- It enables adjusting peel depth and intensity according to croton oil concentration.

Application technique:

1. Prior preparation:

- Use of 0.05–0.1% tretinoin and 4–5% hydroquinone, alone or in triple formulation for up to 4 weeks, in combination with moisturisers.
- Broad spectrum sunscreen is essential to prevent further damage.
- Valaciclovir to prevent HSV-1 infection.

2. Procedure:

- Division of the face into anatomical units for greater safety. Different doses can be used in certain anatomical regions

- Mixture of ingredients prepared at the time of the procedure, ensuring stability
- Monitored application watching for homogeneous "frosting" that is greyish (indicative of penetration into the dermis) and 15-minute break before starting the procedure in another unit

3. Post-operative period

- Care:
    - Use of mild soaps and emollients/petroleum jelly, or polyethylene plastic masks – removed after 5–7 days
    - Recovery time varies from 1 to 3 months, with initial oedema and erythema
- Long-term results:
    - Visible improvement in wrinkles, skin texture and pigmentation
    - She presented melasma cases that were successfully treated for more than 900 days in patients with high phototypes, with no post-inflammatory hyperchromia, spots or rebound effect

4. Complications

- Possible adverse effects:
    - Bacterial or viral infections (e.g. herpes simplex)
    - Dyschromia, scars and keloids in poorly managed cases
    - Prolonged redness and, rarely, dystrophy
    - Ectropion, milia, acne
- Contraindications:
    - Patients with autoimmune diseases and frontal fibrosing alopecia. These are currently an absolute contraindication for the procedure
    - Use with caution in high skin phototypes to avoid pigmentation complications

Conclusion: Phenol peels with croton oil are a powerful technique, but they require rigorous preparation, technical skill and post-operative care. Long-lasting results can be achieved, especially in cases of severe photoageing and melasma.

Peel complications

Speaker: Dr Felipe Ribeiro da Silva

Dr Ribeiro da Silva emphasised that the topic is extremely complicated. You must be very careful when performing chemical peels, because they can actually cause complications. The good news is that all complications are preventable. You can foresee the complication a little before it occurs. It usually gives warning signs.

He published two books together with Dr Denise Steiner: one on chemical peels and the other on complications in cosmetic dermatology, covering more than just chemical peels. All of these complications have already been described in the literature, so there is always some study or evidence to help in the treatment of these complications.

Regarding the large groups of complications, dyschromia, scars, infections and multifactorial complications are noteworthy. The presentation focused on dyschromia and infections.

The most common (and most easily treatable) dyschromia is post-inflammatory hyperpigmentation (PIH). Doctors, and especially resident dermatologists, fear this complication a great deal. However, it is not a real complication. It can occur as a "natural progression" in up to 76% of patients who undergo deep chemical peels. It is a preventable and treatable condition. Periocular and perioral areas are most commonly involved.

In early hyperpigmentation cases accompanied by erythema, he recommended 0.05% clobetasol propionate cream to reduce inflammation. For late hyperpigmentation (after 15–30 days), the choice depends on the sensitivity of the patient's skin. For sensitive or erythematous skin, the option is 4% hydroquinone; for non-sensitive skin, Kligman's formula, adjusting as necessary, considering that tretinoin causes irritation.

Hypopigmentation may also occur, more frequently in patients with phototype IV or greater and patients with frontal fibrosing alopecia, and is common after deep peels such as phenol ones. Some treatment techniques include narrowband UVB phototherapy, fractional laser, latanoprost, bimatoprost and melanogenesis stimulants.

The most common infections are viral (mainly herpes simplex and rarely Epstein-Barr). Pain is an important sign of infection (there are no blisters/vesicles) after peels. Pain is uncommon, even in the deepest peels. These infections can be serious and cause permanent scarring if not treated quickly. Prophylaxis with antivirals (valaciclovir with the most relevant posology) is recommended for all patients undergoing medium or deep peels. Bacterial and fungal infections are rarer but can occur, especially in patients who use antibiotics inappropriately or keep the area occluded. Consider *Candida* infection in the event of perifollicular lesions.

Dr Ribeiro da Silva concluded by inviting everyone to become a member of the International Peeling Society.

Symposium: Fillers

Coordinators Dr Ely Cristina Cortes Peralta, Dr Boris Fernando Sánchez Polanía, Dr Denise Steiner.

Speakers: Dr César Fernando González Ardila, Dr Denise Steiner, Dr Priscilla Zepeda Lopez, Dr Ely Cristina Cortes Peralta, Dr Angélica María Domínguez Duarte, Dr Boris Fernando Sánchez Polanía.

Therapeutic alternative with biostimulators for melasma

Speaker: Dr César Fernando González Ardila

Dr César Fernando González Ardila began by pointing out that melasma is a chronic, multifactorial inflammatory disease that has a significant physical and emotional impact on patients. He cited a recent study conducted at his clinic, which showed that the quality of life of patients with melasma is profoundly affected. He also mentioned the correlation between the severity and duration of melasma and quality of life, stressing that it is a chronic problem with frequent relapses, which requires a comprehensive therapeutic approach.

1. **Current challenges in melasma treatment**

Dr González emphasised that although **Kligman's trio** (developed in 1975) is still useful, it cannot be the only treatment for melasma. Patients expect more effective and sustainable results, especially in view of increasing competition from the treatments and results found on social media.

He stressed the importance of incorporating innovation and technology to exceed patients' expectations.

2. **The pathophysiology of melasma**

A detailed analysis of the pathophysiology of melasma was presented, with an emphasis on...

3. **Damage to the basement membrane:**

    - The basement membrane, synthesised by fibroblasts and keratinocytes, undergoes structural damage that facilitates the trafficking of dermal cytokines to melanocytes, stimulating melanogenesis.

    - In patients with melasma, the affected areas show a completely different response to adjacent areas due to changes in the basement membrane.

4. **Role of fibroblasts:**

    - A key paper published by Ana Espósito (from Hélio Miot's group in Brazil) was highlighted, describing how fibroblasts in areas affected by melasma have an altered genetic profile.

    - Fibroblasts show overexpression of inflammatory mediators and underexpression of cell differentiation factors. In addition, they have slow growth and are less spindle shaped.

5. **Gene expression in melasma:**
    - The genetic profile of melasma is characterised by proinflammatory and pro-melanogenic mechanisms leading to a focal pigmentary phenotype.
6. **Relationship to anatomical location:**
    - Studies published in *Nature* were cited as suggesting that fibroblasts behave differently depending on their anatomical location, which could explain specific patterns of diseases such as melasma.
7. **Biostimulators and new therapeutic strategies**

Dr González presented evidence on the benefits of biostimulators in improving skin quality and luminosity in melasma patients. Studies have shown that biostimulators that are not combined with topical treatments or laser technologies can:

- Improve skin texture
- Increase luminosity
- Significantly reduce pigmentation

8. **Use of PDO threads in melasma**

Dr González shared results of a pilot study conducted at his clinic, investigating the efficacy of polydioxanone (PDO) threads in melasma treatment.

Study methods:

- Patients with melasma who had not received treatment in the previous 12 weeks participated.
- 10 PDO threads per side were applied to the face, in combination with hydrolysed collagen (Novabel) to stimulate microcirculation.
- Assessments based on the mMASI (modified Melasma Area and Severity Index) score and photographic records between week 1 and week 12.

Results:

- A 30–40% improvement in MASI score was obtained for all treated patients, without the need for topical, systemic or laser treatments.
- This approach demonstrated that melasma can be addressed from the cellular microenvironment, considering factors other than melanocytes.

Dr González concluded that for a long time it was believed that melanocytes were the only ones involved in melasma, but fibroblasts have been shown to play a crucial role.

9. **Final reflection and invitation**

Dr González emphasised the importance of thinking innovatively and creatively to achieve better results in melasma treatment. He also invited attendees to participate in the second edition of the Latin American Congress on Melasma and Pigmentary Disorders, to be held in Bogotá from 15–17 August, highlighting the resounding success of the first edition.

Lip beautification with a hybrid technique: laser and fillers

Speaker: Dr Priscilla Zepeda Lopez

Dr Priscilla Zepeda addressed skin ageing and how it impacts mainly on facial aesthetics, specifically in the lip area. Dr Zepeda mentioned that although ageing is inevitable, preventive care throughout life and appropriate treatments can significantly improve its impact.

1. **Skin ageing:**

Dr Zepeda explained that ageing is due to several factors, including environmental factors, diet, lifestyle and genetics. However, she stressed that the way we take care of ourselves over the years is crucial to mitigate the visible effects of ageing. One of the most important aspects of ageing is skin changes, which results in skin thinning, decreased fibroblasts and reduced collagen and elastin production, directly affecting skin turgor and volume. In addition, she mentioned decreased vascularisation, which contributes to a more haggard and aged appearance of the skin.

2. **Changes in the perioral area:**

With regard to the lips, Dr Zepeda noted that perioral ageing is particularly evident. As we age, the lips lose volume and the upper lip tends to flatten. The Cupid's bow, characteristic of youth, becomes less defined, and vertical wrinkles (barcodes) start to become more noticeable. In addition, the lower lip tends to invert towards the region of the lower labial commissure, giving the patient a more aged appearance. These changes are compounded by inversion of the labial commissures and loss of vascularity, resulting in pale, lifeless lips.

3. **Underlying tissue diseases:**

Dr Zepeda pointed out that ageing does not only affect the skin, but is an interactive process that starts from the deepest tissues. She pointed out that bone atrophy and bone and muscle resorption are key factors contributing to facial ageing. This process particularly affects the lower part of the face, where the nasolabial folds and cosmetic units are more pronounced, which can lead to a "tired face" or "grumpy face" appearance.

4. **Perioral rejuvenation techniques:**

She mentioned the most popular and effective treatments, highlighting dermal fillers, peels, lasers, radiofrequency and other high-end technologies. In addition, she mentioned

that many plastic surgeons have started using less invasive techniques, especially when facial rejuvenation is sought in delicate areas such as the perioral area.

5. **Nd:YAG laser approach:**

Dr Zepeda shared her personal approach to lip beautification using the **Nd:YAG laser.** This technique has proven to be effective in treating skin changes in the perioral area, improving lip texture, vascularisation and, of course, volume and definition. Dr Zepeda noted that this technology has helped achieve natural, less invasive results in perioral rejuvenation, without the risks of more aggressive procedures.

Conclusion:

Dr Zepeda concluded her talk by mentioning that ageing is an inevitable process, but with proper care and the use of advanced technologies, improving the appearance of and maintaining healthy, youthful skin is possible. She emphasised the importance of prevention and early treatment to ensure that patients age with dignity, while also prioritising their well-being and aesthetics.

The presentation was a useful introduction for healthcare professionals interested in perioral rejuvenation techniques, showing a balanced approach between science and aesthetics in the treatment of facial ageing.

Calcium hydroxyapatite, treatment of complications

Speaker: Dr Ely Cristina Cortes Peralta

Dr Ely presented the main types of complications with CaHA:

1. Associated with the level of expertise
2. Associated with the material
3. Associated with the technique and application site
4. Vascular complications

How to manage them?

By far the most common is nodule formation. In this case, minimal intervention involves creating a hyperdilution in the nodule with saline solution, sterile water or hyaluronidase, vigorous post-injection massage and repeating if necessary. Pharmacological (collagenase) or laser (Erbium/CO2) procedures are less frequently used.

For arterial occlusion, the use of acetylsalicylic acid 300 mg, hyaluronidase, prednisolone, sildenafil 50 mg/day for 3 days, subcutaneous heparin for 7 days, doxycycline, aciclovir and hyperbaric chamber may be considered. During follow-up, in the event of poor circulation, she recommends repeating the hyaluronidase injection, continuing acetylsalicylic acid, hyaluronidase and prednisone daily or evaluating other therapeutic options.

Addressing the perioral area with hyaluronic acid, beyond the red lip

Speaker: Dr Angélica María Domínguez Duarte

Dr Angélica María Domínguez Duarte presented a technical presentation focused on non-invasive and minimally invasive aesthetic treatments to beautify the lips and perioral area. She stressed the importance of understanding facial anatomy, selecting personalised techniques and maintaining naturalness and dynamism in results.

Key lip treatment points:

1. **Importance of naturalness and dynamism:**
    - She emphasised that the lips must maintain their mobility and expressiveness to avoid artificial results.
    - Static or over-treated lips are perceived to be unattractive.
2. **Critical anatomy in lip treatment:**
    - **Facial artery:**
        - It is tortuous, located at the level of the anterior portion of the masseter and has important branches: superior labial, inferior labial and coronary arteries.
        - Knowing where it is located is essential, as vascular risk is high in the submucosal region.
    - **Orbicularis oculi muscle:**
        - Spatially relevant to treatment, this muscle has a sphincteric function with a wide range of movement.
3. **Product application techniques:**
    - **Reduction of lines and natural volume:**
        - Minimally invasive techniques for patients who do not want volumetric fillers
            - Application on Cupid's bow and lower tubercle to release the orbicularis oculi and generate a mild volume effect
    - **Lip contouring:**
        - Performed on the vermilion border, preferably on the medial portion, to avoid exaggerated results
    - **Volumisation via vertical lines:**

        - Vertical strokes from the vermilion border towards the submucosal space
        - Precision and constant aspiration are essential to avoid complications.

4. **Cannula use:**
    - Considered a safer technique than the needle, especially in deep areas or near the labial artery
    - It enables differentiating between superficial and deep fat compartments, achieving more precise control of the injection.
5. **Correction of the labial commissure:**
    - Needle technique to lift the commissures:
        - Entry point 1–2 mm above the commissure
        - Product deposition in linear paths to provide structural support and a lifting effect

Treatment of the perioral area:

1. **Barcode line reduction:**
    - Use of low-density hyaluronic acid to moisturise the skin without adding volume
    - Fanning technique from medial entry points into the dermis
2. **Nasolabial fold and marionette lines:**
    - Hyaluronic acid with medium or high densities, depending on the degree of restructuring required
    - Preferential use of cannula for safe and homogeneous access
3. **Avoid filter elongation:**
    - She explained that injecting the filter can visually lengthen the lips and add weight, affecting facial aesthetics.
    - In cases where she decides to treat this area, she uses a subdermal and directional technique towards the midline.

Results:

- **Proportionality and dynamism:**
    - The combination of techniques improves the harmony of the lower third of the face and maintains natural mobility.
- **Overall facial rejuvenation:**
    - Treating the perioral area and providing support in areas such as the chin and jawline has a positive impact on the neck and lower third of the face.

Take home points

- **Lips are a symbol of beauty and youth**
    - Understanding patients' expectations and choosing the right techniques to fulfil their wishes without compromising naturalness are crucial.
- **Pay attention to patients' wishes**
- **Explain treatment objectives**
- **Choose the product and technique to be used**
- **Do not forget to treat the perioral area and supporting tissue**
    - Treating the lips does not only involve working on the red lip, but also on the surrounding areas to achieve overall facial improvement.
- **Concept of PRO-AGEING:**
    - Although ageing is inevitable, solutions can be offered to help patients look their best at every stage of life.

Endnote: Dr Domínguez invited the professionals to continue perfecting their technical skills, keep up to date with facial anatomy and always prioritise patient safety in every aesthetic procedure.

Skin quality: from biorevitalisation to bioregeneration, devices for injection approach: combination therapies

Speaker: Dr Boris Fernando Sánchez Polania

Introduction: Dr Boris Fernando Sánchez Polanía began his talk by emphasising how skin quality not only influences patients' self-perception, but also their emotional health, quality of life and social interactions. However, despite its importance, the concept of skin quality has been underestimated in rigorous clinical studies, and the terminology used to describe it varies considerably from one professional to the next.

Definition of skin quality: Dr Sánchez explained that skin quality can be assessed through 16 key attributes, including:

- Thin and thick lines
- Dryness and oiliness
- Tightness, firmness and thickness

These attributes serve as an objective guide for doctors in assessing skin condition and establishing a common language to describe it.

The role of the extracellular matrix in skin ageing: According to Dr Sánchez, skin ageing is related to structural changes in all skin layers, with special emphasis on the extracellular matrix (ECM). This structure provides biochemical and cellular dermal support and is essential for maintaining healthy skin.

Fibroblasts have been highlighted as playing an important role in the synthesis of ECM components, including collagen and elastin fibres. With ageing, these fibres fragment due to the action of enzymes such as metalloproteinases, resulting in dermal collagen fragmentation -> ECM degradation -> fibroblast collapse.

This collapse reduces collagen and elastin production, contributing to sagging, loss of elasticity and other signs of ageing.

Procedures to improve skin quality: Dr Sánchez highlighted three main approaches supported by scientific evidence to intervene in skin quality:

1. **Biorevitalisation:**
    - It seeks to stretch fibroblasts to improve collagen production.
    - It uses devices such as small-particle hyaluronic acids applied intradermally or subdermally.
    - It improves skin architecture and support.
2. **Biostimulation:**
    - It consists of recruiting fibroblasts and transforming them into myofibroblasts to increase the synthesis of collagen types I and III.
    - Tools: collagen biostimulators such as calcium hydroxyapatite, polylactic acid, polycaprolactone and polydioxanone, as well as energy-based technologies
3. **Bioregeneration:**

    - It causes overexpression of genes associated with extracellular matrix synthesis.
    - Combination of biostimulators with free and cross-linked hyaluronic acids to improve texture, firmness and radiance

Clinical evidence and outcomes: Studies were presented showing how combination treatments can significantly transform skin quality:

- Cross-linked and free hyaluronic acids improve texture, reduce pore size and increase radiance.
- Biostimulators such as polylactic acid promote ECM regeneration, increase firmness and reduce sagging.

Dr Sánchez shared case reports where combination therapies were used, highlighting:

- Use of cannulas for subdermal and subcutaneous product application
- Visible results in the improvement of facial contours, firmness and radiance
- Patients with sagging and loss of definition in their cheeks and jawline who showed marked improvement after treatment

Combination techniques: The suggested protocol includes:

- Superficial hyaluronic acid for deep hydration
- Polylactic acid in subcutaneous layers to stimulate collagen
- Focus the treatment not only on the face, but also on the neck and adjacent areas for harmonious rejuvenation.

Results:

- Improved skin texture and radiance
- More defined facial contours
- Significant reduction of sagging in areas such as the cheeks and neck

Conclusions: Dr Sánchez ended by emphasising that treating skin quality goes beyond combating the superficial signs of ageing. It involves a holistic approach that combines science, technique and art to address the specific needs of each patient. This approach not only improves appearance, but also enhances patient confidence and emotional well-being. **"We cannot stop ageing, but we can accompany our patients in this process, helping them to age at their best".**

Symposium: Botulinum toxin

Coordinators: Dr Daniel Alcala Perez

Speakers: Dr Daniel Alcala Perez, Dr Angélica María Domínguez Duarte, Dr Rosa Olivera, Dr Javier Ruiz Ávila, Dr Judith Montiel.

The latest in botulinum toxin

Speaker: Dr Daniel Alcala Perez

Introduction

Dr Daniel Alcala Perez examined the innovative features and evolving applications of botulinum toxins, highlighting the latest developments in serotypes, liquid formulations and alternative uses in fields such as neurology, dermatology and advanced aesthetics.

Advances in botulinum toxins

Dr Alcala detailed the historical and scientific progression of botulinum toxins from their earliest versions to current formulations. He mentioned:

- **Available serotypes:** Although there are 7 serotypes of botulinum neurotoxins, type A and B toxins are still the most commonly used in clinical practice. Faster onset and shorter duration are the clinical differences of botulinum neurotoxin E.
- **Genetically modified toxins:** The objective of these modifications is to achieve a faster and more personalised action, adapted to the desired duration according to the anatomical region being treated.
- **Formulation innovations:** The benefits of botulinum toxins in liquid form (Medytox – NivobotulinumtoxinA), which will soon be marketed, were highlighted. Some of its advantages include:
    - **Easy to prepare:** The liquid presentation eliminates dilution errors, reduces the risk of contamination and saves preparation time.
    - **More environmentally friendly:** By reducing the use of medical supplies such as syringes and needles, these formulations promote sustainability.
    - **Operational efficiency:** The liquid toxins come ready to use, optimising aesthetic procedures.

Advanced aesthetic applications

Dr Alcala emphasised the following innovative uses of botulinum toxin:

- **Microbotox (or Baby Botox):** It is used to improve skin texture by applying diluted doses to periocular and facial areas, providing a subtle lifting effect—1:5 dilution.

- **Correction of facial asymmetries:** Particularly in cases of facial paralysis, toxins help to balance aesthetic and functional symmetry.

- **Reduction of masseteric hypertrophy:** Precise applications enable making the mandibular contour more slender and reducing masseter volume.

Medical applications in research

- **Pigmentary disorders:** The potential role of BoNT in inhibiting melanogenesis is being investigated due to its ability to cleave SNARE VAMP 1-3 proteins. Botulinum toxin shows potential for treating melanosis and preventing the progression of tumours such as melanoma.

- **Depression:** Phase III studies suggest that it may improve mood, but it is unclear whether the effects are neurological or psychological.

- **Acne:** Although results vary, preliminary studies suggest that it decreases sebum production and inflammatory lesions.

- **Alopecia:** Its effect is investigated by prolonging the anagen phase of the hair follicle (reducing the activity of the dermal papilla cells of the hair follicle) and reducing scalp inflammation (reducing TNF-alpha and interleukins).

- **Migraines:** a well-established use that continues to be optimised in terms of dose and location

- **Treating pruritus:** Although there are theories about its mechanism of action, there is insufficient data available.

Anatomical and technical considerations

Dr Alcala stressed the importance of being familiar with the specific anatomy of each patient to achieve optimal results. Some advances include:

- **Brow lift techniques:** The number and location of injection sites should be adjusted according to the desired aesthetic objective (full or partial brow lift). Applying the toxin close to the edge of the eyebrow or even below it is recommended, to avoid adverse effects such as eyelid ptosis.

Adverse reactions and controversies

Dr Alcala mentioned the occurrence of unusual allergic reactions, such as erythema and pruritus at the application site, even with well-known toxin brands. Areas of inconclusive research were also addressed, such as the use of the toxin for:

New trends in aesthetic medicine

Emerging techniques were discussed such as "Barbie Botox", used to make the neck slimmer and longer through 6 injection points (5 units per point) in the bilateral trapezius muscle. This trend has become popular thanks to being promoted on social media.

Conclusions

Dr Alcala concluded by stressing the importance of natural results and the ongoing progress in botulinum toxin research. He stressed the need to personalise every treatment and to keep up to date with the latest scientific findings to ensure safety and effectiveness when applying treatment.

Tips and tricks for the upper third

Speaker: Dr Angélica María Domínguez Duarte

Dr Angélica María Domínguez Duarte discussed advanced botulinum toxin application techniques to treat various facial muscles. Her presentation focused on functional anatomy and TIPS on how to optimise natural aesthetic results while avoiding undesirable effects:

1. Don't ignore the frontalis muscle too much, especially the central portion, as it is the only muscle that lifts the upper third.

2. In older people with atrophic frontalis muscles, always treat them high and shape the eyebrows as desired.

3. When you want to raise the eyebrows more, especially in centrally and laterally, use the BANE technique.

4. The frontalis, nasalis, orbicularis, levator nasalis and levator labii superioris and depressor supercilii are also involved in eyebrow contraction.

5. Several muscles in the same place but at different depths are involved in eyebrow contraction.

6. NEVER forget to assess the need to treat the depressor supercilii muscle, especially after several toxin treatments as they facilitate its hypertrophy. This muscle, initially studied little in anatomical texts, plays a crucial role in the upper third of the face. Dr Domínguez shared personal findings on muscle hypertrophy following various botulinum toxin treatments and explained how these changes influenced aesthetics between the eyebrows.

7. To raise the eyebrow you can relax the orbicularis along the entire upper portion of the eyebrow, not just along the lateral portion.

8. A lower dose DOES NOT EQUATE TO naturalness. It equates to shorter duration. An average of 64 units (some patients need more and some need less) is a standard dose for upper third application.

Dr Domínguez emphasised the importance of understanding facial anatomy and muscle dynamics to ensure safe, effective and natural results in botulinum toxin use. She concluded by thanking attendees and stressing the importance of a careful, personalised and evidence-based application.

Botulinum toxin in hyperhidrosis

Speaker: Dr Rosa Olivera

Dr Rosa Olivera began her talk by focusing on botulinum toxin treatments for hyperhidrosis, highlighting her experience with the botulinum toxin brand and the development of international guidelines for its application. The presentation included practical advice on how to treat various areas of the body, starting with the underarms, the use of appropriate units and the importance of using 100 or 500 unit vials, depending on the case.

Key points:

- **Dosage and application**: Dr Olivera emphasised that at least 50 units per area should be used to treat hyperhidrosis, especially in the underarms. She showed how to apply the toxin at equidistant points (25 units in each with a radial movement, in the centre of two concentric circles), using a simple injection technique with 50 units per underarm, totalling 100 units.

- **Pain management:** For pain management during the procedure, she recommended the use of ice or vibration. In some cases, local blocks with lidocaine may be useful, especially in more sensitive areas such as the hands. Pain management becomes a major challenge when treating areas such as the hands or feet.

- **Application techniques in other areas**: She showed how to perform the treatment on the hands, explaining that botulinum toxin application in this area requires a specific dosage (50 units of toxin diluted in saline solution). Techniques for treating areas such as the feet and underarms were also discussed. In these areas a shorter needle or more specific techniques can be used to avoid muscle stiffness.

- **Assessment and personalisation:** Dr Olivera stressed the importance of personalising every treatment, depending on patient needs, to ensure application effectiveness and safety. In addition, she mentioned the need to adjust the dose and technique according to the area to be treated and muscle depth.

- **Diagnostic tests**: To identify hyperhidrosis areas, she mentioned a simple diagnostic technique using starch and iodine, which enables clearly identifying excessive sweating areas by visualising the affected areas.

- **Adverse events**: Although rare, she noted some side effects, such as haematomas, hand pain and weakness in the opposition of the thumb, which can occur during treatment. These effects are generally mild and transient.

- **Special cases:** In more complex situations, such as patients with hyperhidrosis in less common areas or in individuals with severe pain, she mentioned alternative techniques, such as local anaesthesia with tourniquet, although this method is less used due to discomfort.

- **Application techniques for patients with severe hyperhidrosis**: The use of botulinum toxin in patients with amputations or in areas such as the groin, buttocks and back was demonstrated, with a specific protocol for treatment in these areas.

Dr Rosa Olivera concluded that the key to success in hyperhidrosis treatment with botulinum toxin lies in personalising the treatment and selecting the appropriate doses and application techniques according to patient needs, ensuring long-lasting and natural results.

Botulinum toxin in the lower third of the face

Speaker: Dr Javier Ruiz Ávila

During his lecture, Dr Javier Ruiz Ávila addressed the most important aspects of botulinum toxin use in perioral therapy, emphasising the importance of applying appropriate and personalised doses for each patient. He mentioned that although botulinum toxin is a recurrent and well-known topic in aesthetics, it is still a topical issue due to its effectiveness and the constant development of new techniques.

1. **Importance of personalised doses:** Dr Ruiz Ávila stressed that each patient is unique, so botulinum toxin doses must be carefully titrated. He reflected on how small doses can achieve great results, but if not administered correctly, they can have adverse effects. For areas such as the lower third of the face, such as the chin and platysma, he stressed the need to follow detailed guidelines and precise techniques.

2. **Microdosing techniques in the perioral region:** Dr Ruiz Ávila explained his approach to applying botulinum toxin micro-doses to the upper lip area, particularly to treat "barcodes" or expression lines. These low doses of 3 to 4 units per area help to smooth lines without completely paralysing facial muscles, enabling the patient to maintain their natural expression.

3. **The effect of social media on patients' expectations:** As social media has become more influential, patients often go to practices with unrealistic expectations, inspired by the results of before/after videos and photos on platforms such as Instagram. Dr Ruiz Ávila stressed that it is important to inform patients about what is possible and what is not, and to avoid unrealistic promises of immediate or perfect results.

4. **Treatment innovation:** A central topic in his presentation was the use of new products and techniques. He mentioned **liquid threads**, an innovative option that is mainly used to treat the perioral area and is starting to gain popularity in countries such as Korea, Russia and some parts of Europe. This polydioxanone-based product is one of the few biostimulants that can be safely applied to the perioral area.

5. **Biostimulants and their use in facial aesthetics:** In addition to botulinum toxin, Dr Ruiz Ávila highlighted the use of biostimulants, especially low-density hyaluronic acids, to improve skin quality and treat sagging, particularly in the middle and upper third of the face. These treatments, such as **regenerative peptides** and **exosomes**, are complementary to botulinum toxin treatments and can help maintain long-lasting results.

6. **Recommendations and a holistic approach to aesthetics:** Finally, Dr Ruiz Ávila called for the importance of combining aesthetic treatments with a holistic approach that includes healthy habits such as a balanced diet, regular exercise and adequate rest. He stressed that, although aesthetics have a great impact, they should not be the only aspect to consider in order to maintain healthy skin and a healthy body in the long term.

In summary, Dr Javier Ruiz Ávila's lecture provided valuable insights into modern techniques and the appropriate use of botulinum toxin, while highlighting the importance of personalising treatments for every patient and maintaining realistic expectations in aesthetics. He also emphasised the use of innovative technologies and treatments, such as liquid threads and biostimulants, to provide optimal results without compromising the naturalness of facial expressions.

Parte inferior do formulário

Botulinum toxin lasts less and less; how to avoid this

Speaker: Dr Luz Helena Pabón Ospina

Dr Luz gave an example of the case of a 52-year-old patient who used 44 units of onabotulinum toxin plus a booster of 7 units of botulinum toxin with satisfactory results, but returned 5 weeks after the application complaining of loss of toxin effect. On the same day this patient was treated, her mother and sister were treated with the same brand and batch of toxin and had an excellent response, with no need for boosters.

Botulinum toxin therapeutic failures

Botulinum toxin therapeutic failures have been a topic of discussion since 1988. She explained that this failure can be classified into...

Primary non-responders

Those who do not respond to the first application and subsequently with new applications

Reasons for therapeutic failure include: doses are too low, injection into the incorrect muscle and muscle contractures, prior botulism, previous vaccination, improper storage/degradation of BoNT.

Secondary non-responders

Those who stop responding after a period of effectiveness

Reasons for therapeutic failure include: presence of neutralising antibodies (53.5%), insufficient doses, mislocalisation, change in muscle activity patterns or disease progression, aggressive reconstitution, inadequate storage, genetic factors–HLA, autoimmune diseases

Risk factors for neutralising antibody formation

- High doses per session, high cumulative doses (Dr Pabón stressed that cumulative doses of botulinum toxin should not exceed 400 units in a three-month period. Furthermore, she stressed that doses for cosmetic purposes are considerably lower than those for medical or neurological uses)
- Use of RimabotulinumtoxinB
- Short intervals/booster 1–2 weeks after initial session
- Injection near lymph nodes (neck)
- Autoimmune diseases.

Studies on therapeutic failures

A study by José et al. reviewed by Dr Pabón in 2021 showed promising results in patients who received type A toxin at week 12, with significant improvements at week 14. This suggests that immunological and neurological factors play an important role in therapeutic failure.

Recommendations for optimising botulinum toxin use

Appropriate dilution and correct dosage, correct storage and avoid the use of open vials for longer than a certain period of time, appropriate time period between applications (a minimum of 12 weeks, coordinate application times with other speciality treatments to optimise results). Consider using incobotulinumtoxinA in the event of secondary failure.

In the event of secondary therapeutic failure, Dr Pabón suggested that a break from the toxin may be necessary (a 1- to 2-year holiday), and some research has also suggested considering the use of **zinc** (although this is a controversial topic).

Symposium: Aesthetics in autoimmune diseases

Coordinators: Dr Paula Peter Brayne, Dr Yadira Diaz.

Speakers: Dr Paula Peter Brayne, Dr Martha Miniño Brea, Dr Jennifer Frías, Dr Elda Giansante, Dr Susana Misticone Moreno, Dr Yadira Diaz.

Aesthetic approach in patients with autoimmune diseases

Speaker: Dr Paula Familia Peter Brayne

The conference focused on the relationship between autoimmune diseases and cosmetic procedures, examining the differences between the innate and adaptive immune systems, factors affecting immunity in the skin, and the precautions needed when treating patients with autoimmune pathologies.

Immunity: innate vs adaptive

1. **Innate immunity:**
    - It is the defence system we are born with.
    - It acts immediately against infectious or traumatic agents.
    - It includes macrophages, neutrophils and natural killer cells.
    - It recognises a small number of antigens.
2. **Adaptive immunity:**
    - It evolves with the development of the body.
    - It is more specific and recognises all antigens.
    - It is mediated by B and T cells, which generate antibodies.
    - Its activation is slower compared to innate immunity.
3. **Skin defences:**
    - The skin, as an intelligent organ, has its own immune system.
    - **Keratinocytes**: first line of defence
    - **Langerhans cells**: They act as sentinels, presenting antigens to T cells.
    - The recent identification of B cells in the skin was mentioned. This has enabled more targeted therapies.

Autoimmune diseases and their impact on the skin

1. **Basic concepts:**
    - There are more than 80 autoimmune diseases.
    - A total of 75% of them present with skin manifestations.
    - Approximately 10% of the population has an autoimmune disease.
2. **Considerations prior to a cosmetic procedure:**

- Assess the type of disease (e.g. photosensitisers, scleroderma, rheumatoid arthritis, antiphospholipid syndrome).
- Determine whether the disease has been in remission for at least 6 months.
- Identify comorbidities and cumulative organ damage.

3. **Triggering factors:**
    - Invasive procedures and medicinal products such as anticoagulants, anticonvulsants and antibiotics
    - Biological therapies (e.g. adalimumab) may interfere with disease stability

Precautions and preliminary assessments

1. **Comprehensive medical history:**
    - Inquire about family and personal history.
    - Identify current medicinal products.
    - Perform a complete physical examination to detect any disease-related damage.
2. **Recommended laboratory tests:**
    - Complete blood count, ESR
    - Vitamin D and ferritin levels
    - Thyroid hormones and antithyroid antibodies
    - Complement and other specific antibodies
3. **Informed consent:** The importance of obtaining legally valid consent, signed in front of a lawyer in the Dominican Republic, was emphasised to ensure its legal weight.

Cosmetic procedures in patients with autoimmune diseases

1. **Risk assessment:**
    - Ensure that the patient has no active inflammation.
    - Avoid backfilling over previously injected materials.
    - Exercise caution with photosensitive patients.
2. **Materials and techniques:**

- Use low molecular weight and moderately cross-linked materials.
- Injections must be precise, avoiding extreme depths.

3. **Post-treatment care:**
    - Avoid activities that can cause inflammation such as intense exercise or saunas.
    - Monitor any reactions such as erythema, oedema, pigmentary changes, granulomas or late bacterial infections.

Conclusion

1. **Importance of doctor-patient dialogue:**
    - Listen to the patient's expectations and assess the feasibility of the procedure.
    - Explain any risks and realistic outcomes.
2. **Adverse effects:**
    - Recognise complications and treat them early with appropriate antibiotics.
    - Avoid the immediate use of corticosteroids.
3. **Key recommendations:**
    - Wait for stable remission before performing procedures.
    - Disinfect with chlorhexidine instead of alcohol.
    - Prioritise safe materials and appropriate techniques to minimise risks.

The conference highlighted the need for the holistic and personalised treatment of patients with autoimmune diseases seeking cosmetic procedures, always prioritising their safety and well-being.

Aesthetic contraindications in connective tissue disorders

Speaker: Dr Martha Miniño Brea

Dr Miniño Brea takes a holistic approach to treating patients with autoimmune diseases. She stressed the need for a change of attitude towards life, modifying behavioural patterns, lifestyles and ways of thinking that can cause inflammation. Her presentation examined contraindications, factors that perpetuate inflammation and the care to be considered in these patients, including cosmetic aspects.

Key points on lifestyle changes:

1. Avoid exposure to ultraviolet (UV) light:
    - UV light is a photosensitiser that adversely affects patients with autoimmune diseases.
    - It damages nucleic acids and triggers chronic persistent inflammation through inflammasome activation.
    - Optimal serum vitamin D levels are associated with improved photoprotection and reduced inflammatory activity.
2. Nutrition and the gut microbiome:
    - Diet plays a crucial role, especially in diseases such as rheumatoid arthritis.
    - Gut dysbiosis affects the skin-gut-brain axis and can exacerbate autoimmune symptoms.
    - The medicinal products used in these diseases also affect intestinal permeability.
3. Physical exercise:
    - Moderate physical activity is recommended, which improves immune function and reduces inflammation and fatigue (a common symptom in diseases such as lupus).
    - Exercise should be tailored to avoid excessive stress.
4. Stress and sleep:
    - Stress causes chronic inflammation and impairs Th1 and Th2 immune responses.
    - Improving sleep quality through melatonin may counteract associated inflammation and improve quality of life.
5. Abstinence from harmful substances:
    - Smoking: It interferes with innate and adaptive immunity, reducing the effectiveness of some treatments such as antimalarials and biological agents.
    - Alcohol and recreational drugs: They induce systemic inflammation and affect drug effectiveness.
    - Coffee: It is not contraindicated, but excessive consumption may increase inflammation in rheumatoid arthritis (>7 cups/day).

Absolute and relative contraindications in autoimmune diseases:

1. Absolute:
    - Treatment withdrawal
    - Smoking
    - Photoexposure without appropriate control (may have a protective role against multiple sclerosis, Type I DM and rheumatoid arthritis)
    - Alcohol and recreational drug use
2. Relative:
    - Extreme physical activity (e.g. marathons, CrossFit)
    - Invasive procedures in patients with active disease
    - Pregnancy under certain conditions without appropriate monitoring

Cosmetic aspects in autoimmune diseases:

1. Hyaluronic acid:
    - Low molecular weight products can cause Toll-like receptors 2 and 4 mediated inflammatory responses. Its use in lupus is still controversial.
    - Late-onset reactions (LORs) are Th1 lymphocyte-mediated reactions. Three theories – AHA structure, biofilm, immune status. In vaccinated patients or patients with a history of COVID-19, dental infections, active autoimmune processes and LMW-AHA, these risks may be increased.
2. Lupus:
    - Minimal LDAS or remission required; never withdraw treatment. Laser use for hyperpigmentation or collagen stimulation, enabling the treatment of lupus and other conditions, always under medical supervision. For fat transfer (lupus profundus), pre-treatment with steroids. HA, PLLA–> satisfactory effects and no adverse reactions or disease exacerbation.
    - Invasive procedures: increased risk of complications–> disease reactivation, hypercoagulation and scarring abnormalities
3. Scleroderma:
    - Cosmetic treatments should focus on functionality, such as improving microstomia and facilitating basic activities (speaking, eating).
    - Techniques such as fat transfer and pulsed laser are recommended to treat hardened skin.

4. Breast implants and silicone materials:
    - May induce autoimmune diseases (ASIA syndrome)
    - Sclerodermiform condition
    - Positive anticentromere antibodies–> reversible after product removal
    - Implant removal usually improves symptoms, even without further treatment.

Conclusions and recommendations:

- Health in autoimmune diseases requires a comprehensive change in patients' lifestyle and their environment.
- Never stop treatment, even if symptoms improve.
- Adapt physical activities and avoid absolute risk factors such as alcohol, smoking and photoexposure.
- Cosmetic and reconstructive procedures may be feasible under strict medical supervision as long as the patient is in remission or performing minimal activity.
- Low molecular weight HA may cause hypersensitivity reactions–> careful with COVID.
- Close collaboration with specialists (rheumatologists, dermatologists) to assess risks and benefits.

Final message: Treatment adherence and a multidisciplinary approach are key to ensuring a better quality of life for patients with autoimmune diseases.

Fillers. Are they OK? Which one? Why?

Speaker: Dr Jennifer Antonia Frías Mendez

Dr her presentation, Dr Jennifer Frías addressed the application of aesthetic procedures in patients with autoimmune diseases, specifically systemic lupus erythematosus (SLE) and other connective tissue diseases. She highlighted the delicate balance between the functional and aesthetic benefits and the risk of disease reactivation. In addition, she presented relevant case reports and literature reviews that support current practices.

Lupus patients and aesthetics: key considerations:

- Famous lupus patients: Dr Frías mentioned public figures such as Michael Jackson and Selena Gomez, who both have a history of lupus and have publicly shared their struggles with the disease.

- Aesthetic and functional objective: Patients seek to improve their appearance as well as their quality of life. This highlights the need for safe procedures with sustainable results.

- Conflicts of interest: She emphasised the importance of differentiating between purely aesthetic treatments and those that improve the function of the tissues affected by the disease.

Literature review on treatments for injection:

1. Safety of procedures in inactive lupus:
    - Studies indicate that there is no conclusive evidence of reactivation of SLE following aesthetic treatments, provided the disease is inactive for at least 6 months and the patient is not using potent immunosuppressants.
    - A 2A-2B level of evidence supports these procedures.
2. Prominent treatment options:
    - Autologous fat:
        - Advantages: It is biocompatible, affordable and offers sustainable functional benefits. It also promotes angiogenesis and improves tissue quality.
        - Limitations: Graft survival varies between 25% and 80%. Its use can be complicated in fibrosis patients.
        - Technique: It requires careful extraction, refinement by centrifugation, and application with specific cannulas to avoid vascular damage.
        - Clinical evidence: Successful cases show persistent functional and aesthetic improvements.
    - Hyaluronic acid and other biostimulators:
        - They offer immediate results with a low adverse effect rate, but require multiple sessions with low doses per application.
        - In lupus patients, small volumes are recommended to reduce the risk of nodules.

Presentation of case reports:

1. Case 1: Patient with lupus panniculitis:

    - History: Diagnosed in 2008, with severe facial atrophy treated with lipotransfers in various stages.
    - Results: Visible improvements in oral function and aesthetics following procedures in 2023 and 2024. Cumulative benefits were found with each procedure.
    - Complication: Despite good initial results, the patient developed SLE reactivation after the last procedure.
2. Case 2: Patient with severe post-liposuction fibrosis:
    - History: Young patient with lupus panniculitis that had been inactive for 20 years. Multiple lipotransfers were performed, but the results were limited due to the poor quality of the donor tissue.
    - Complication: Disease reactivation after procedures, evidenced by proteinuria and systemic symptoms.

Relevant studies:

- Research in Naples:
    - It assessed different autologous fat management techniques (macro-, micro-, and nano-fat) in patients with autoimmune diseases. The results showed high satisfaction and improvements in function and aesthetics, though with variable graft survival.
- Survey in Brazil (2023):
    - It analysed the experience of dermatologists with facial fillers in lupus patients. It found a 6.8% disease reactivation rate and an 8% complication rate (similar to those in patients without lupus).

Conclusions:

Strict criteria prior to procedures:

- Establishing and knowing the activity criteria for patients with collagenopathies is imperative before performing any procedure.
- Procedures should be performed with inactive and stable disease.
- Fillers offer a safe option to improve significant aesthetic deficits among other benefits.
- More studies for more safe procedures.

Are laser and collagenopathy compatible?

Speaker: Dr Susana Misticone Moreno

Introduction

Dr Susana Misticone Moreno began her talk by addressing the positive impact that laser technologies have on dermatology and how they have evolved to become indispensable tools for treating various conditions, including collagenopathies. These diseases, although complex, should not prevent patients from receiving aesthetic and therapeutic benefits from lasers. During the conference, Dr Misticone examined case studies, scientific evidence-based recommendations and her personal experience in applying lighting technologies in this type of pathology.

Context and initial concerns

The dermatologist explained that the use of lasers in patients with collagenopathies has been controversial in the past due to fears of autoimmune disease exacerbation. However, recent studies and clinical experience have shown that these technologies can be safely applied to patients with diseases such as lupus erythematosus, scleroderma and morphoea, provided that appropriate protocols are followed.

Main fears and challenges:

- Autoimmune disease activation or exacerbation
- Lack of specific guidelines for the safe use of lasers in these conditions
- Interactions between the laser and the medicinal products that patients usually take

Benefits of laser in collagenopathies

Dr Misticone emphasised that light technologies have both aesthetic and functional applications, significantly improving patients' quality of life. The main advantages include:

- **Reduction of erythema and telangiectasias** (using intense pulsed light and pulsed dye laser)
- **Prevention of scarring** in chronic cutaneous lupus through early interventions
- **Functional improvement in scleroderma and morphoea**, helping to recover elasticity and movement in affected areas
- **Anti-inflammatory results** in carefully selected active cases

Protocols and recommendations

The dermatologist shared strategies to maximise laser effectiveness and safety in these patients:

- **Use non-ablative or minimally ablative lasers** whenever possible.
- **Use low fluences** to reduce the risk of laser-induced disease exacerbation.
- **Treat at inactive stages** of the disease.
- **Carefully monitor** skin reactions in the days following the procedure.
- **Avoid sun and heat exposure** immediately after treatment.

Examples of applicable technologies:

- Intense pulsed light (IPL) in milliseconds for facial erythema and telangiectasias (LE and scleroderma patients)
- Pulsed dye laser for localised and refractory cutaneous lupus erythematosus lesions
- Fractional CO_2 or erbium laser for atrophic scars/morphoea, used with caution
- CO2 laser and calcinosis cutis
- Ruby, alexandrite, diode and Nd:YAG lasers for hair removal
- Nd:YAG, diode and dye laser for rejuvenation

General recommendations

Dr Misticone shared a list of principles for the safe and effective treatment of patients with collagenopathies:

- Always assess disease activity before any procedure.
- Select suitable laser for patients with dark phototypes.
- Patients with active skin infections are contraindicated.
- Pre-medicate in patient with a history of viral infections (herpes).
- Prioritise the patient's overall well-being over aesthetic results.
- Adopt a holistic approach combining light technologies with other dermatological and aesthetic treatments.

Conclusion

Dr Misticone concluded her presentation by stressing that lasers are indeed safe and effective tools for patients with collagenopathies when used properly. You must know the parameters to correctly treat patients. Always use the lowest possible fluences; avoid when there is activity. She invited dermatologists to lose their fear and adopt these technologies,

always emphasising well-defined protocols, constant monitoring and being an INTELLIGENT operator.

Safe aesthetic treatments for collagenopathies

Speaker: Dr Yadira Diaz

Dr Yadira began her talk by suggesting that we need to take a very careful look at patients with autoimmune disease. There is a limit on aesthetic procedures in these patients.

Botulinum toxin is NOT contraindicated in autoimmune diseases. Unfortunately from a scientific point of view there is still no answer because there are very few scientific studies and evidence. A study in over 500 patients concluded that as long as the disease is controlled, Botox appears to be safe. The disease must be controlled for at least 3 to 6 months, the patient must not be on corticosteroids and must have no complications from previous applications.

Fillers, biostimulators and threads can act as a foreign body, despite being biocompatible, and can cause intentional immune reactions. If inflammatory response is excessive or becomes chronic, an adverse effect will occur. PLLA and HA non-permanent fillers are recommended for LE patients.

She presented the case of a 64-year-old patient using filler (HA) and BoNT in 2016, who developed oedema and hyperpigmentation after eyelid hydration for injection, and reinforced that "when nothing is safe, anything is possible".

DermaBUSINESS: Planning the success of your private practice

Coordinator: Dr Carlos Quiroz

Speakers: Dr Maria Paulina Estrada Fernandez, Dr Carlos Quiroz, Dr Maria Rosario Peralta, Dr Nathalie Quiroz Valencia, Dr Carlos De La Roche, Dr Mario Gastón Toledo Lelevier.

Strategic planning: defining objectives to organise your private practice.

Speaker: Dr Maria Paulina Estrada Fernandez

HOW TO GET STARTED?

She suggested starting with five basic points:

1. DEFINE the DNA of your brand, management and structure, being clear about the objectives you want to achieve, while always being faithful and respecting the DNA and personal values that you want to instil in the care structure or business.

2. PLAN, developing strategies and a plan of action to be followed.

3. IMPLEMENT, execute, resources

4. MONITOR, evaluating the process and analysing data.

5. ADJUST, making changes according to the evaluation of the process carried out.

Defining the **brand's DNA** is essential to be clear about the principles, values and objectives that will guide the path forward and remain consistent over time. In addition, a solid management structure from the outset, aligned with objectives, is the key to success. However, to achieve these goals, you must surround yourself with experts to help with unfamiliar administrative processes, while remaining in control and being actively involved at every stage.

Planning is crucial to maintain order and guide important decisions, such as staff recruitment, defining services and acquiring equipment. This should always occur through a process of ongoing learning. Objectives should follow the **SMART** rules: they should be specific, measurable, achievable, relevant and time-bound. These larger objectives are often broken down into smaller goals, where the whole team must be involved to ensure coherence and collaboration. Strategic consistency is vital, setting short-term (such as digital strategy), medium-term (time management and reducing waiting times) and long-term (expansion with new staff) objectives.

In order to define an **action plan**, you must analyse the current status and develop strategies to achieve your final objectives. This involves identifying indicators of success, concrete actions, responsible parties, necessary (financial and human) resources and defined deadlines.

There are useful tools to facilitate this process: the **SWOT matrix** for macro strategies, resource analysis with budgets and timelines (such as Google), and time management through agendas and deadlines (tools such as Trello).

She described the SWOT technique, a strategic analysis tool used to assess the status of an organisation, project or specific situation. SWOT is an acronym that stands for:

The clinic's *strengths* include the dermatologist's experience and expertise, advanced diagnostic and treatment technology, a good relationship with patients, a strategic location and a good reputation. *Opportunities* include growth in treatment demand, potential alliances with other clinics and professionals, increased interest in skin health, digital marketing and the use of telemedicine. However, there are *weaknesses* such as dependence on a single professional, limited capacity for care, lack of online visibility, high equipment and technology costs, and limited administrative resources. Finally, *threats* include regulatory changes, economic crises and changes in consumer behaviour.

However, in the end evaluating and adjusting is always necessary, analysing the achieved vs planned results and making adjustments according to actual results.

As an example, she mentioned the high-budget advertising campaign that she paid for at the start which did not produce the expected results. From that moment on, she took

campaign courses to be able to do it herself and to be able to approach it according to her objectives.

She ended her presentation by concluding that strategic planning provides a clear focus and vision, ensuring that objectives are aligned with your brand DNA; an appropriate management structure; and continuous evaluation as key elements for success.

Understanding your practice's financial model

Speaker: Dr Carlos Quiroz

Because a dermatologist must understand their own business model, he again mentioned the SWOT method to understand which business model is most appropriate for every individual.

Threats include high complexity, multiple patient options in the medical market, and high expectations, while the main challenges are growth, resource management and maximising profitability.

With all the difficulties and threats, there are also positive pressures that force us to distinguish ourselves not only as regards dermatological expertise, but also in the way we deliver services.

He argued that we need to become familiar with profitability, which will ultimately be the most important resource to provide a better service to patients.

He therefore suggested that the strengths to take advantage of all these opportunities can be found in a well-constituted and implemented business model.

Business models or strengths enable strategic decision-making, optimising resources, identifying opportunities, adapting to market changes, improving patient experience and controlling costs and expenses, while differentiation through medical growth and service quality represents a key opportunity.

What is a business model?

It is the set of strategies, processes and practices that a company uses in order to deliver and calculate value.

The concept of value does not only refer to money, but the concept of value varies according to the market. In the case of doctors, the main value is in patients. So in medicine, the value of the business is often in the way you gain, treat and retain patients.

There are thus different components to the business model, but he stressed that the patient must always be at the centre.

Business model components:

- Source of income (services): consultation, products sold at the clinic, procedures performed
- Key resources: medical and non-medical staff, infrastructure and equipment, financial resources
- Cost structure: It is important to take into account fixed costs, variable costs, direct costs and indirect costs, which should be adjusted for time.
- Value proposition
    - Functional benefit: related to the quality of the consultation and the treatment offered, but also related to the conveniences offered to the patient (availability of opening hours, teleconsultations, etc.)
    - It has to be accompanied by emotional benefits, which are the ones that enable us to connect with the patient.
    - Symbolic benefits, which are those that the market perceives the services one offers
- Customer segment: patients that a professional wants to reach, for which it is important to conduct a demographic, psychographic, purchasing behaviour and type of service study for each patient.
- Distribution channels: once you have selected the type of client/patient you want to target, you must choose where you want to show your work. Digital channels, face-to-face channels (practice, events and partnerships), medical referral network, and ambassador and influencer referral programme.
- Client/patient relationship: getting to know the patient, strengthening their experience and transforming their interaction as an opportunity for growth, both for the patient and for yourself (see photo)
    - Attracting and gaining phase:
    - Onboarding phase
    - Monitoring and maintenance phase
    - Loyalty phase
    - Recovery phase
    - Expansion phase and ongoing communication

Conclusion: properly building your business model does not guarantee that you will achieve what many have achieved, but it does help you to follow what you have set out to do.

Strategies for creating better social media content

Speaker: Dr Mario Gastón Toledo Lelevier

He based his talk on how to create social media content, in order to enhance your medical practice, without losing sight of your objective.

Social media, although not essential, are a free and valuable tool to reach more patients and make your work known. It is key to avoid direct sales. Instead, provide useful content, such as information that adds value. When creating videos, the essential thing is to generate emotions in and be useful to the consumer. An example is to tell a sequential story. First, show a "before and after" image to get them excited, followed by information that explains the case and adds value. Personal promotions should not be included; these may be exclusive to the clinic.

He explained 5 keys to real growth in social media as a doctor:

- That you are seen, that your face is seen to connect with the audience
    - Use all social media
    - Split content into V1, V2, V3
        - V1 80%: Videos of value. Offer something useful, information.
        - V2 10%: viral videos, following a trend
        - V3: 10%: sales video in disguise, e.g. a "before and after"
    - Rely on team members to keep abreast of trends and listen to audience interests

Some more tips for making videos:

- Edit videos, include subtitles
    - Each video or reel should have a script: an introduction with an appealing topic, the main body of the video and a closing with a call to action.
    - Use the video to segment the market
    - Upload the videos at an appropriate time, at a time when viewers are not busy (5 p.m.); upload all the videos together.
    - Monday to Thursday are the best days to upload videos
    - Ask third parties for their opinions. Follow trends.

How to have a #dreamteam. Your team is your most powerful tool.

Speaker: Dr Nathalie Quiroz Valencia.

She explained the keys to a good working team.

A good team is essential to improve efficiency in medical care, ensuring a fast and personalised service, as well as optimising time and reducing errors, which has a direct impact on clinic profitability. Staff selection should be based on searching for qualified individuals with technical and social skills, aligned with the clinic's values. It is important to involve the current team in the process, conduct in-depth interviews and provide ongoing training to encourage personal and professional development. In addition, setting clear and achievable goals motivates the team, while recognising achievements strengthens the sense of belonging and reinforces positive behaviours.

Leadership plays a key role, as you must be exemplary, show enthusiasm and be willing to listen to your team. In addition, regular follow-up through periodic meetings and opportunities for promotion contribute to maintaining a positive working environment, where collaboration, respect and trust are valued. A well-trained team not only improves patient care, but also increases job satisfaction and the profitability of the practice, which promotes the growth and success of the clinic.

Take advantage of different platforms to spread your message

Speaker: Dr Mario Gastón Toledo Lelevier

An effective marketing strategy, based on digital and traditional content, should focus on brand positioning and credibility, preserving the doctor's reputation, attracting new patients, and fostering patient retention and loyalty.

It is important to use the same material on all social media, as the audience of each is different.

However, it all comes together on Instagram where it is important to have a Linktree so that patients can access appointments, products, etc.

On **Instagram**, the first story should generate excitement or interaction (such as a "before and after" image or a question box) to increase your reach throughout the day. It is important to post content daily, with a maximum of 8 stories, all uploaded at the same time to take advantage of the algorithm. Stories should follow a sequence, alternate backgrounds every two or three posts and measure audience interaction to adjust future content.

TikTok is an ideal platform to make content viral, especially with daily live streams. Content should be consumed for inspiration and to maintain message congruence.

Podcasts are an opportunity to share high-quality information with patients, create relationships through guests and position yourself in the health area, reaching a different audience profile.

In **WhatsApp Business**, using quick responses, personalising them according to patient needs and having an updated catalogue of services are key.

For videos, he suggested following the anatomy of a reel: a clear introduction, a body with useful content and a call to action at the end. It is key that the videos are short, with no pauses, with varied backgrounds and focused on your speciality. Use them to segment your market. For example, if you work with lasers, create content about melasma and hyperpigmentation. Avoid mentioning specific brands or products.

Value your service: how to price your services appropriately

Speaker: Dr Carlos Quiroz

Aspects to be taken into account in price allocation: He suggested that the main thing is to be clear on what the expenses and profit margins are and then to be able to assess the following points.

1. Total expenses
2. Profit margin
3. Patient-perceived value
4. Competitor prices
5. Segmentation of services
6. Seasonal demand or demand assessment
7. Regulations and standards
8. Operational capacity
9. Inflation and periodic adjustments
10. Promotions and service packages

He suggested starting by making a list of the tasks necessary to be able to allocate prices.

1. Describe in detail the services you want to offer.
2. Make a list of the resources needed to be able to provide each of the services.
3. Assign a value to each one and adjust for performance time.
4. Calculate the profit margin at the sales price.

He gave an example considering that the hourly office cost is $100 and you want to have a profitability of 30%, for example (He clarified that the cost of profitability is up to each individual).

He suggested the following calculation to determine the sales price:

Sales price = (total cost)/(1-margin) = &00/(1-0,3) = 100/0,7 = 142

Considering the example above, in order to have a 30% return, if the cost price is 100, the sales price should be 142.

Conclusion: Taking into account the total expenses adjusted for the time to perform the work is the starting point to initiate a proper pricing strategy.

Medical business partnerships. My experience.

Speaker: Dr Carlos De La Roche

The main goals in creating a company are to recover the initial investment, generate passive income, improve quality of life, ensure company sustainability, foster employment and build a replicable organisational culture.

- **Choosing a good partner:** Sharing the same vision, values and ethics; having complementary skills; and maintaining constant communication and engagement are essential. A written shareholders' agreement is a must.

- **Effective leadership:** Inspiring the team, fostering creativity, communicating clearly, solving problems and taking strategic decisions are essential leadership skills.

- **Human talent management:** Have qualified and ethical staff, ongoing training, incentives and reduce turnover. Implementing management indicators and defining clear processes for each activity are key.

- **Strong board of directors:** Bring in a manager and mentors, together with external advisors, to analyse the market, assess acquisitions, plan for growth and establish long-term strategies.

- **Financial diversification:** Partners should generate passive income and seek financial freedom, without relying solely on the company.

- **Financial planning:** Avoid common mistakes, such as choosing between renting or buying premises, and increase working capital to drive growth.

- **Benefit assessment:** Prioritise equipment renewal and procurement; reduce costs in key areas such as accounting, marketing, social media and legal advice; and take advantage of tax benefits.

Oral communications: acne and rosacea

Coordinators: Dr Esperanza Melendez Ramirez and Dr Mariela Tavera Zafra

Speakers: Dr Diego Mendez Villanueva, Dr Verónica Rose Marie Rotela Fisch, Dr Marius Anton Ionescu, Dr Ramon Pigem Gasos.

Comparison of two techniques for quantifying *Demodex spp.* in patients with rosacea: standardised skin surface biopsy vs direct microscopic examination

Speaker: Dr Diego Mendez Villanueva

He first reminded us of some concepts and then focused on his presentation.

Demodex spp. is a commensal ectoparasite found in 23–100% of healthy adults. However, this mite has been found to be more prevalent in patients with rosacea. However, the literature is discordant on this percentage.

The objective of the presentation is to compare the sensitivity of standardised skin surface biopsy (SSSB) and direct microscopic examination (DME) in patients with rosacea and, secondarily, to determine the prevalence of *Demodex spp.* infestation in patients with rosacea.

Both are considered positive when mite density is greater than 5/cm^2.

The author presented a cross-sectional research study in patients with rosacea in 2 dermatological departments that lasted 8 months. The study enrolled sixty-one patients with erythematotelangiectatic and papulopustular rosacea, aged 18 years and over. Dermoscopy was compatible.

Exclusion criteria: Ocular or phymatous rosacea, other dermatological diseases, recent treatment (less than 3 months)

Each patient underwent both techniques in clinically significant areas. *Demodex* count, delay time for each technique and associated pain were assessed.

Results: Infestation of up to 62% was detected in patients with standardised skin biopsy compared to 28% with DME. Mite density for the standardised skin biopsy was 30.08 mites per square centimetre compared to the direct microscopic examination with 5.56 mites per square centimetre.

Associated pain was measured via visual analogue scale with 2.7 points for standardised skin biopsy and 2.02 points for DME. No significant differences were detected

He explained that these differences could be due to the fact that cyanoacrylate adheres to the mite and removes it completely, as opposed to the other technique where it is removed rather fragmented.

In conclusion, standardised skin biopsy is a more reliable method. Up to 64% of rosacea patients are infested with *Demodex spp*.

DME underestimates mite density.

These findings led SSSB to be considered the standard technique at the participating sites.

Mesotoxin: a new alternative for rosacea

Speaker: Dr Verónica Rose Marie Rotela Fisch

Dr Verónica Rotela presented a descriptive study on the use of botulinum toxin in mesotherapy (mesotoxin) as an alternative treatment for rosacea. This study was conducted in 2023 in a medical centre in Asunción, Paraguay.

The objective of the study was to determine the efficacy of botulinum toxin mesotherapy in the treatment of rosacea by identifying the clinical and biological characteristics of patients, assessing the specific components of improvement, and analysing how the decrease in erythema and flushing could be related to the blockade of neurotransmitters involved in vasodilation and the regulation of vascular endothelial growth factor.

An observational, descriptive and retrospective study was conducted. Thirty patients with rosacea treated with botulinum toxin mesotherapy in 2023 were included.

Assessment was carried out using conventional photographs, Reveal camera photographs (vascular and pigment structure), applying a modified scale and assessing changes in the different rosacea components.

The technique used was injections in uniform micropapules, 0.05 ml of solution at 1 cm intervals in grids, intradermally, with 10 IU per cheek (100 IU diluted in 5 cc of normal saline).

The following characteristics were present:

- 76% women and 23% men
    - Ages 31–51 years; predominant phototype: III (53.3%)
    - Erythematotelangiectatic rosacea was the most common subtype.
    - All patients showed improvement: 20% moderate, 43.3% good and 36.36% excellent
    - Clinical assessment: Reduction of erythema in 25 patients, reduction of papulopustules in 4 patients and improved skin quality (reduction of seborrhoea and pores) in 28 patients
    - Clinical assessment with the Reveal camera (n=19): 58% moderate improvement, 32% good and 2% excellent

The results concur with previous studies in Colombia, Peru, the United States and Korea, which highlight the efficacy of botulinum toxin in reducing erythema and other associated symptoms.

Botulinum toxin mesotherapy was shown to be effective in all of the rosacea subtypes included, highlighting its potential off-label use.

It is proposed in theories to refer to decreased erythema and flushing, taking into account neurotransmitter blockade and even vascular endothelial growth factor regulation.

In conclusion: subjective and objective clinical improvement was found in all patients, with a predominance of female patients, age under 40 years, phototype III and erythematotelangiectatic rosacea. There was a significant decrease in erythema, telangiectasias, papules and pustules in the objective component of rosacea, which identifies less noticeable structures, so clinical improvement is not necessarily similar.

It is important to conduct further studies that assess the duration of effects, include validated tools (RosaQoL) and have larger patient samples. Mesotoxin may be considered to be a promising alternative for rosacea treatment.

Clinical characteristics and microbiome in acne: metagenomic taxonomic assessment

Speaker: Dr Marius Anton Ionescu

Introduction

He mentioned "interactomes", which involve interactions between microbes, host cells, pathogenic bacteria and saprophytes.

Microbiota and microbiome

The term *microbiome* is used when the microbiota is accurately determined by metagenomic analysis. This difference has been widely highlighted in recent years. Microbiota: A set of commensal, pathogenic and symbiotic microorganisms that inhabit the human body. Microbiome: It includes these microorganisms as well as genes and metabolites arising from interaction with the environment and host.

The pathophysiology of acne

The pathophysiology of acne is more complex than hyperseborrhoea and hyperkeratinisation. Factors such as Toll-like receptors, lack of antimicrobial peptides and changes in the microbiome contribute to the problem. A notable change in the microbiome is the dominance of *Cutibacterium acnes* (*C. acnes*) ribotypes RT4 and RT5 (more anaerobic), which are pro-inflammatory and more virulent due to the production of biofilms that perpetuate inflammation and generate antibiotic resistance.

Microbial competition

Staphylococcus epidermidis competes with the *C. acnes* ribotypes RT4 and RT5, inhibiting their proliferation. Recent studies investigate the use of topical *S. epidermidis* applications as a new strategy in acne treatment.

New therapeutic options

In addition to conventional treatments, new approaches are being explored including:

- Modulation of innate immunity via Toll-like receptors (TLR2-REGUL)
- Anti-IL17 biotherapies
- Vaccination (anti-CAMP)
- Biofilm inhibition (MPA-REGUL patent)

Clinical and metagenomic studies

A clinical study was conducted in acne patients using a cosmeceutical emulsion formulated with 2 patents, TLR2-REGUL and MPA-REGUL, twice daily for two months. The following was found:

- Reduction of all types of lesions
- Increased *C. acnes* ribotype RT6 (not associated with acne)
- Significant decrease of proinflammatory ribotypes RT4 and RT5 in skin lesions

In addition, metagenomic analyses were performed with 16S ribosomal DNA sequencing, identifying 10 known *C. acnes* ribotypes and 36 *S. epidermidis* subtypes.

In conclusion, a correlation was found between clinical improvement and restoration of skin microbiome balance. These findings are available in an open access article in PubMed and were presented at the American Academy of Dermatology (AAD) last March.

Ionescu, M.-A.; Tatu, A.L.; Busila, C.; Axente, E.R.; Badalato, N.; Feuilloley, M.G.J.; Asquier, E.; Martínez, J.D.; Lefeuvre, L. Microbiome Modulation in Acne Patients and Clinical Correlations. *Life* **2024**, *14*, 688. https://doi.org/10.3390/life14060688

New evidence on topical treatments

Speaker: Dr Ramon Pigem Gasos

He presented a case series on the use of peels and masks in monotherapy and as adjuvant therapy in patients with rosacea and acne.

He had a conflict of interests with the pharmaceutical company Mesoestetic.

The main points are detailed below:

Rosacea

- **Treatment:** use of a medical peel in monotherapy composed of azelaic, salicylic, lactic and retinal acids
- **Technique:** two-layer application with subsequent neutralisation. Four sessions, every three weeks.
- Results:
    - Immediate erythema lasting 48 hours
    - Reduction of inflammation (papules and pustules)
    - Improved skin texture, as perceived by patients
    - Reduction of vascular reactivity, although it does not treat telangiectasias or chronic phymatous changes

Mild and moderate acne

- Medical peel:
    - **Composition:** 30% salicylic acid combined with MD Complex (arginine, caffeic acid and shikimic acid)
    - Results:
        - Improvement in comedonal and mild inflammatory lesions
        - Limited effectiveness in severe cases
        - Improvement of skin texture and PIH and reduction of post-inflammatory erythema
    - **Applications:** in monotherapy, with sessions spaced three weeks apart
- Mask (BLEMIDERM)
    - **Composition:** Retionoids, salicylic acid, shikimic acid, pyruvic acid, mandelic acid, enoxolone, sulphur and neem oil.
    - More concentrated and powerful than peels, indicated for moderate cases and to prevent scarring. Leave on for 10 minutes alone.
    - It is usually combined with home treatment for three months.
    - Results: reduction of inflammatory lesions and improvement in early scarring

Severe acne (adjuvant)

- The mask was used as an adjunct to oral therapy, especially low-dose isotretinoin.
- It helps modulate the healing process from the earliest stages.

Conclusions

1. Rosacea:
    - Peels are effective in reducing inflammation and improving skin quality.
2. Acne:
    - Peels are useful in mild-to-moderate cases, but are most effective as adjuvant therapy.
    - Masks are more suitable for treating scars and more serious lesions.
3. General considerations:
    - Carefully screen patients, especially in the private sector.
    - Examine less obvious areas such as the back and neckline to optimise treatments.
    - These procedures increase adherence, satisfaction and follow-up in consultation.

Final message: Peels and masks are useful therapeutic tools in dermatology, both in monotherapy and in combination therapy, offering tangible benefits in rosacea and acne.

Adverse events, quality of life and satisfaction in pulsed dye laser (PDL), botulinum toxin or dual therapy for erythematotelangiectatic rosacea. Experience in 80 patients.

Speaker: Dr Eduardo Rivera Perdomo

He reminded us that erythematotelangiectatic rosacea, characterised by persistent facial erythema, telangiectasias and symptoms such as burning and pruritus, has a profound emotional and social impact on patients. This study aimed to evaluate the safety and efficacy of **pulsed dye laser**, **botulinum toxin** and their combination as novel therapies in cases refractory to conventional treatments.

Pulsed dye laser (PDL): its chromophore is oxyhaemoglobin, its energy is dissipated in the form of heat to generate vascular lesions, generating immediate purpura. It has anti-angiogenic and anti-inflammatory effects.

Botulinum toxin: It inhibits the release of inflammatory mediators such as substance P, calcitonin gene-related peptide and vasoactive intestinal peptide, and it reduces

cathelicidin LL-37-induced erythema, mast cell degranulation and mRNA expression, thus having an anti-inflammatory effect in the skin.

Methods and participants

- **Study design:** Observational and ambispective (2018–2023)
- **Sample:** 80 patients, predominantly women (63), with a mean age of 45 years and phototypes III–IV. Patients with phymatous rosacea, cancer diseases, pregnancy or who were breast-feeding were excluded.
- Interventions:
    - Laser dye in 50 patients.
    - Botulinum toxin in 8 patients (0.15 to 0.25 U per point).
    - Dual therapy in 22 patients.

Clinical characteristics (presence of telangiectasias, facial involvement, extrafacial involvement, flushing and pruritus) were assessed. Quality of life using the SKINDEX-29 scale; adverse events (pain, erythema, purpura, facial asymmetry, hypopigmented macules); degree of satisfaction; and post-procedure recommendation of treatments were also assessed.

Main findings

1. Noteworthy clinical outcomes:
    - The dye laser significantly reduced erythema and telangiectasias due to its photoacoustic and anti-angiogenic effect.
    - Botulinum toxin, applied using the mesobotox technique, showed benefits on skin inflammation by inhibiting vasodilator and pro-inflammatory mediators.
    - The combination of both therapies enhanced outcomes in patients with the most severe symptoms.
2. Impact on quality of life:
    - Approximately 97.5% of patients reported a marked improvement in their post-procedure quality of life.
    - Approximately 80% reported higher self-esteem and 76.25% reported improvements in their interpersonal relationships.
3. Satisfaction and recommendation:

- More than 81% of patients would recommend the therapies, highlighting their aesthetic and functional impact.

4. Adverse events:

    - Post-procedural transient erythema predominated.

    - One case of hypopigmentation and mild facial asymmetry were the only notable adverse effects.

This study demonstrates that both laser dye and botulinum toxin, in monotherapy or in combination, are effective and safe treatment options for erythematotelangiectatic rosacea. In addition to improving clinical signs, these therapies had a positive impact on patients' quality of life and emotional well-being, with a low incidence of adverse effects. This opens up new possibilities for refractory cases.

They concluded their presentation with illustrative case studies showing "before and afters" for procedures, highlighting both the clinical and emotional transformation in treated patients.

Oral communications: hair and nails

Coordinators: Dr Esperanza Melendez Ramirez and Dr Mariela Tavera Zafra

Speakers: Dr Michelle Alcocer-Salas, Dr Jeyson Montero Castaño.

Erosive pustular dermatosis of the scalp: experience from a referral centre in western Mexico

Speaker: Dr Michelle Alcocer Salas.

She presented a case of erosive pustular dermatosis of the scalp in a 94-year-old female patient with a history of actinic keratosis previously treated with 5-fluorouracil. The patient went in with a lesion that initially presented as a small papulopustule on her forehead, which increased in size and progressed into an erythematous plaque with eroded areas, yellowish scabs and well-defined borders on the scalp. Dermoscopy revealed the absence of follicular openings, reddish areas, oily exudate and yellowish scabs, so a biopsy of the lesions was taken. The following were put forward as differential diagnoses: pemphigus, seborrhoeic dermatosis and tinea.

Histopathological analysis showed atrophic epidermis, subcorneal pustules and an inflammatory infiltrate composed of neutrophils, lymphocytes and histiocytes, with skin atrophy and solar elastosis. Mycological cultures were negative, confirming the diagnosis of erosive pustular dermatosis of the scalp.

She then gave a brief description.

It was first described in 1979 by Burton and primarily affects older adults, mostly women. It is important to mention that the pathogenesis of the disease is not fully understood, but it is associated with androgenic alopecia, chronic actinic damage and trauma. In addition, topical medicinal products (e.g. 5-fluorouracil), infections and surgical procedures may be involved in its development, although no definitive relationship has been established.

Clinically, it mainly affects the vertex and frontal region, is asymptomatic and manifests with pustules, erosions, yellowish scabs and, in some cases, scarring alopecia due to chronic inflammation. Dermoscopy shows absence of follicular openings, superficial blood vessels and, in some cases, atrophy revealing hair bulbs. Histopathology is not specific but is crucial to differentiate it from other diagnoses such as squamous cell or basal cell carcinoma and other neutrophilic dermatoses.

The recommended treatment depends on whether or not the patient has severe atrophy. Topical calcineurin inhibitors are indicated in the event of atrophy. In the absence of atrophy, topical corticosteroids can be used.

In the cases presented from the Instituto Dermatológico de Jalisco, three patients (all women, mean age 80 years) were treated with topical corticosteroids, with significant improvement in their skin condition.

Early diagnosis of this disease is essential to avoid sequelae and improve patients' quality of life. Early detection facilitates timely treatment and prevents the progression of chronic inflammation. This type of dermatosis is rare and in many cases underdiagnosed, so it is important to keep clinical suspicion high for its diagnosis.

Telogen effluvium, a proposed therapeutic approach

Speaker: Dr Jeyson Montero Castaño

Telogen effluvium is a common cause of hair loss characterised by increased hair loss due to hair growth cycle disturbances. It usually occurs after stressful events and can be classified as acute (less than 6 months) and chronic (more than 6 months).

The speaker named the pathophysiological mechanisms proposed by Dr Rebora:

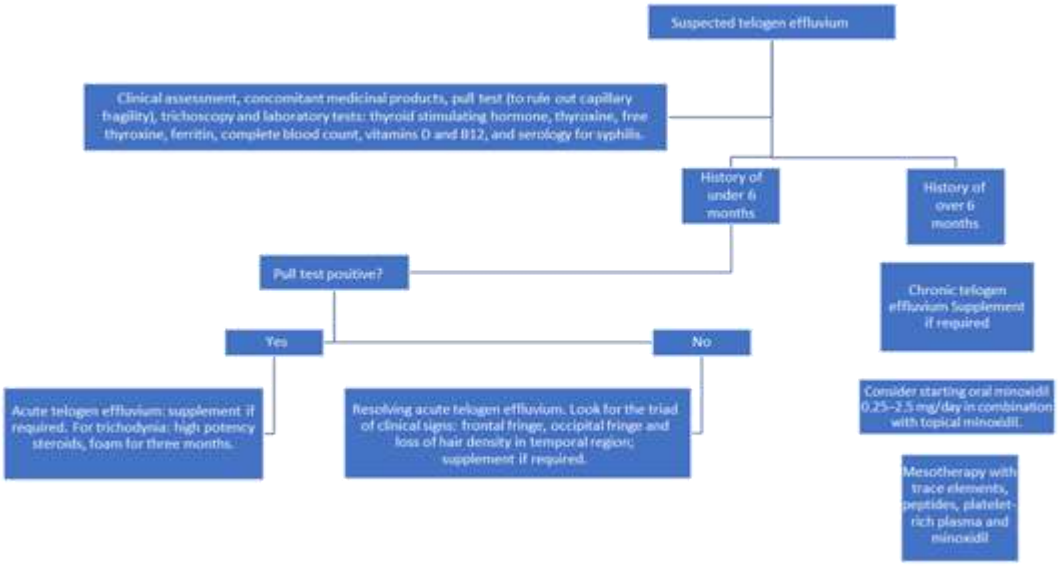
- Premature teloptosis: accelerated hair release due to proteolysis of cadherins and telogen hair release, and high TNF-alpha levels. It can be triggered by endogenous factors (such as seborrhoeic dermatitis) or exogenous factors (such as exposure to UV radiation or medicinal products).

- Collective teloptosis: synchronisation of hair cycles resulting in massive hair loss, common in newborn hair loss, the postpartum period or with the chronic use of oral contraceptives

- Premature entry into the telogen phase: caused by cytostatic drugs, nutritional deficiencies (iron deficiency anaemia, vitamin D deficiency) or autoimmune diseases such as Hashimoto's thyroiditis. Common symptom: trichodynia.

He mentioned trichodynia (painful or uncomfortable sensation in the scalp) as a symptom. It may be related to vitamin B12 deficiency and other autoimmune conditions, so it is essential to identify specific patterns of alopecia and rule out other conditions, such as androgenic alopecia.

He proposed the following diagnostic algorithm :



1. Pull test: A positive result indicates telogen effluvium. Hair bulbs should be evident.

2. Trichoscopy: It has limited diagnostic value. Common but non-specific findings include empty follicles (yellow dots) and single-hair follicular units and regrowing hairs.

3. Laboratory tests: Assess thyroid profile, complete blood count, ferritin, vitamin D and B12 levels, and serology for syphilis.

As treatment strategies he proposed:

Nutritional support: Correct deficiencies, especially iron and vitamin D, which are common in telogen effluvium.

Pharmacological treatments:

- Oral minoxidil (0.25 to 2.5 mg daily) is effective; topical 5% minoxidil can also be used.
    - Topical corticosteroids may be used in patients with trichodynia, but should not be used for more than three months.
    - Others: mesotherapy, nutraceuticals

Monitor response to treatment at 3 months. If there is no improvement, consider a scalp biopsy to rule out other conditions.

Oral communications: melasma

Coordinators: Dr Esperanza Melendez Ramirez and Dr Mariela Tavera Zafra

Speaker: Dr Claudia Mateo.

Topical 30% metformin as an alternative therapy for the treatment of melasma

Speaker: Dr Claudia Mateo.

The presentation began with an overview of the use of 30% metformin cream as a therapeutic alternative to treat *melasma*, a chronic skin condition characterised by hyperpigmentation, which primarily affects women in their 30s and 40s. This condition is associated with increased activity in the melano-epidermal unit, especially in sun-exposed areas.

The speaker highlighted the role of *melanocytes*, cells responsible for pigment production through a complex process known as *melanogenesis*. Recent research suggests that other cells, such as *keratinocytes*, *fibroblasts* and *mast cells*, also contribute to the condition. Key phenomena include:

1. Inappropriate melanocyte activation
2. Solar elastosis with melanin aggregation
3. Increase in the number of mast cells
4. Basement membrane disruption
5. Increased vascularisation

She then focused on inappropriate melanocyte activation.

Inappropriate melanocyte activation is mainly triggered by *ultraviolet radiation*, which causes DNA damage to keratinocytes, increasing the production of proopiomelanocortins that cleave the alpha-melanocyte-stimulating hormone. It activates different signalling pathways by stimulating melanocytic activity. Several intracellular signalling mechanisms are involved, including the following:

- Wnt/β-catenin
- C-KIT complex
- Phosphatidylinositol-3-kinase pathway

Treatment should address photodamage, hyperpigmentation, cellular stress and neovascularisation.

In 2014, the first study on the use of topical metformin was published. Metformin has been studied for its potential in melasma treatment due to its effects on *adenosine monophosphate (AMP)* signalling pathways. Metformin reduces AMP expression, thereby inhibiting melanogenesis. Studies have shown that metformin is non-toxic to normal cells, including melanocytes and keratinocytes, and can inhibit the proliferation of melanoma cells.

She described the clinical study conducted:

A quasi-experimental study was conducted at *Hospital Universitario de Caracas* between January and October 2023, in 30 women diagnosed with melasma. A "split-face" design was used to compare the efficacy of metformin cream versus a control group using 4% hydroquinone. The study was divided into three phases, all of which involved photographic recording, Hemi-mMASI and side-effect reporting.

1. Initial assessment and documentation

2. Interim assessments at 4 weeks

3. Final assessments after 8 weeks plus satisfaction survey

Results

- The majority of patients were between 41 and 50 years of age and mostly phototype IV. A total of 68% had centrofacial melasma.

- Efficacy: Although hydroquinone showed faster results, metformin showed significant improvement by week eight. Both treatments reduced the severity of melasma with a decrease in Hemi-mMASI.

- Adverse effects: Minimal effects were reported, with some cases of erythema and pruritus.

At the end of the study, 88% of patients expressed satisfaction with metformin treatment, while 100% expressed satisfaction with hydroquinone.

The study concluded that topical metformin is an effective and safe treatment for melasma, providing significant improvements in pigmentation and patient quality of life. These findings support the continued study of metformin in dermatological applications beyond its traditional use.

Acne/Rosacea symposium: "Learn the dos and don'ts in acne and rosacea"

Coordinators: Dr Minerva Gomez Flores, Dr Antonio Massa, Dr Patricia Troielli.

Speakers: Dr Andrea Santos Muñoz, Dr Franz Barnes, Dr Carla Muñoz Olate, Dr Carlos Montealegre Gomez, Dr Jannell Obregon Alzamora, Dr Minerva Gomez Flores, Dr Paulo Jorge Tavares da Silva Lamarão, Dr Vicente Manuel Navarro Lopez and Dr Patricia Troielli.

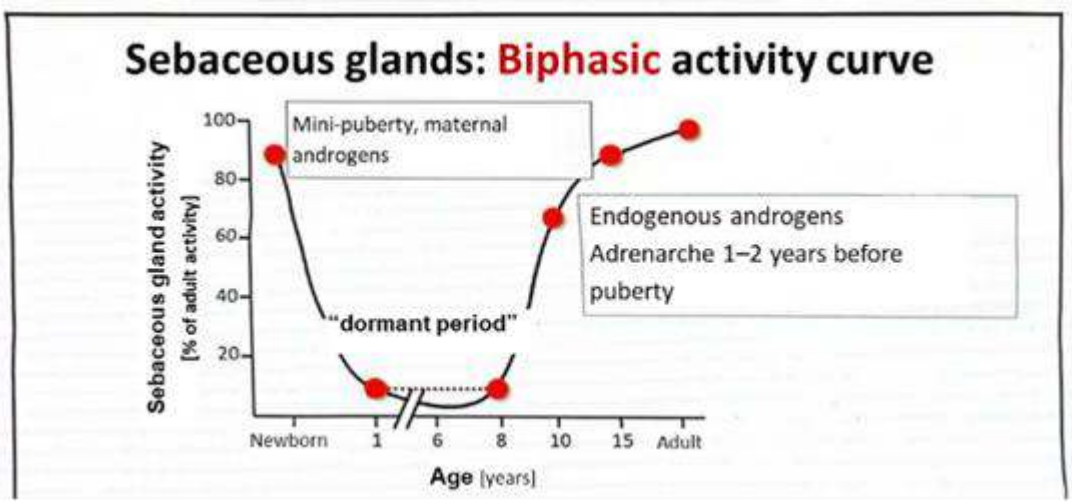
Moderate-to-severe pre-adolescent acne

Speaker: Dr Andrea Santos Muñoz

She began her presentation with a brief introduction.

Acne is one of the most common diseases that can occur starting in the first days of life, preceding the first signs of pubertal maturation. It affects 90% of adolescents and about 20% of newborns. The pathogenesis is similar in all age groups, although INFANTILE acne may be a marker for other pathologies, requiring additional clinical studies in some cases.

She used the following graph to show how sebaceous gland activity is biphasic, being silent between the age of one year and 8 years, a period in which the onset of lesions should be striking.



Classification of acne in paediatrics:

TYPE OF ACNE	AGE	MORPHOLOGY	LOCATION	ASSOCIATED SYSTEMIC DISEASE
Neonatorum	0–2 months	Erythematous papules and papules/pustules Few comedones	Cheeks, chin, eyelids and forehead	Rare
Infantile	2 months to	Papules, pustules, few comedones	Cheeks	Rare

	1 year			
Mid-childhood	1 to 7 years	Comedones, inflammatory papules, pustules and nodules	Forehead, chest, back	YES
Pre-adolescent	7 to 12 years	Comedones, inflammatory papules, pustules, nodules and cysts	Forehead, cheeks, chest and back	Rare
Teenage	12 to 18 years	Open and closed comedones, erythematous papules	Forehead, nose, chest and back	Rare

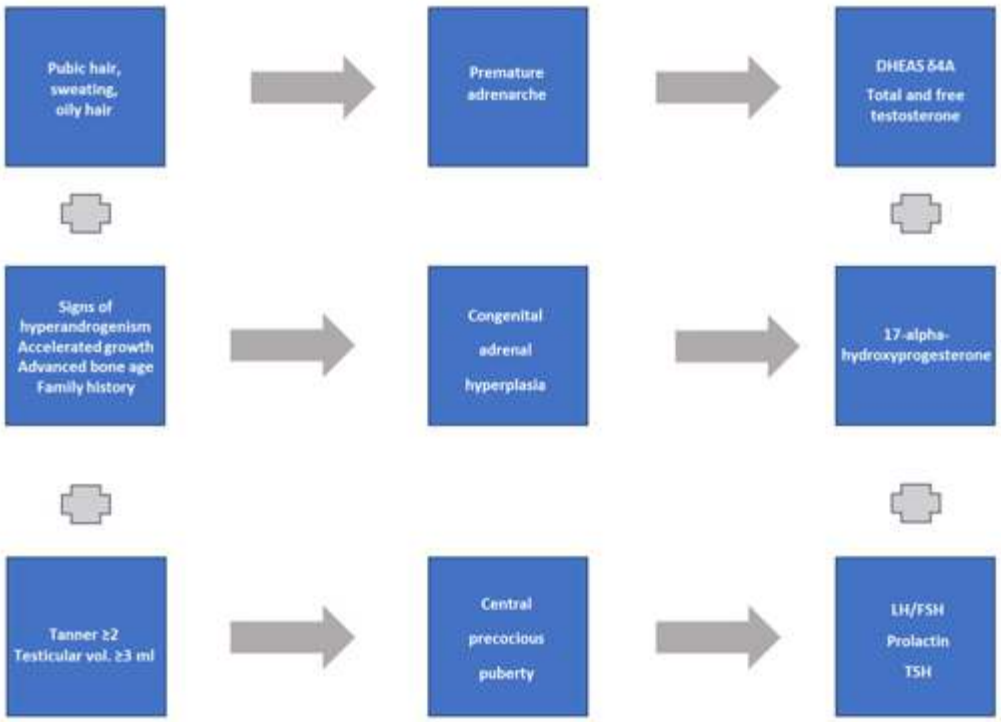
In more detail, she then named some of the main characteristics of each.

1. **Acne neonatorum** (occurs in 20% of newborns), mainly affecting the cheeks and forehead with papules, pustules, comedones and, rarely, nodules and scars. Changes in the microbiome have been suggested as a possible cause as an essential factor (*Malassezia*). It is important to assess whether mothers are taking any medicinal products (lithium, corticosteroids, phenytoin). The pathophysiology is due to increased activity of adrenal and testicular androgens, which is why it is more common in boys. RED FLAGS DURING THIS PERIOD: significant acne neonatorum, signs of virilisation and growth abnormalities.

2. **Infantile acne** Rare, more inflammatory, predominantly in boys. It is predominantly located on the cheeks. It predisposes to severe acne in adolescence. It is due to the persistence of adrenal androgens. In uncontrollable cases, assess hyperandrogenism.

3. **Preschool acne:** 1 to 7 years, rare, THERE IS NO ADRENAL ANDROGEN PRODUCTION AT THIS STAGE, SO ALWAYS LOOK FOR HYPERANDROGENISM. It is a warning sign as it may be the first manifestation of hyperandrogenism. There are inflammatory and retentional lesions.

- Basic assessment: bone age, growth chart and laboratory tests (total and free testosterone, DHEA/DHEAS, 17-alpha hydroxyprogesterone, LH, FSH and prolactin)



4. **Prepubertal acne:** It is increasingly common, precedes pubarche and affects the T-zone, mostly with comedones. It is a predictor of severe acne.

With regard to treatments, the important thing is that they are safe, simple to carry out and easy for the patient and carer to adhere to. Also explain that most treatments are off-label. It is generally no different from adult treatment except that tetracyclines cannot be used in children under 8 years of age and isotretinoin cannot be used in children under 12 years of age.

It is important to bear in mind that most cases are usually mild and thus dermocosmetics can be a great ally. It is important to protect and restore the skin barrier and microbiome at every stage of treatment.

Instagram, WhatsApp, TikTok: friend or foe?

Speaker: Dr Franz Barnes

He outlined 4 strategies for using social media as allies.

1. Mass education: Social media are channels for debunking common myths.

2. Personalised and ethical recommendations: Seek different ways to connect with the audience, promoting personalised consultations, preventing patients from following erroneous or harmful advice on social media. However, stress that social media are not a suitable medium for consultations.

3. Visual content that is impactful and catches the audience's eye, but that is ethical in terms of the posts

4. Humanisation of dermatology: Having an active and well-maintained presence enhances trust in science and, in turn, reinforces your reputation as a medical figure.

Challenges to overcome:

- Maintaining authenticity
- Constantly updating
- Delegating tasks
- Ensuring information veracity
- Setting limits
- Taking stock professionally and personally

Different strategies in late adolescent acne

Speaker: Dr Carla Muñoz Olate

She began her lecture by outlining the WHO definition.

Acne in young people: 10 to 24 years old

Adult acne in people over 24 years of age

- Persistent: adolescent onset
- Late: development starting at age 25
- Recurrent: flare-ups starting in adolescence with more flare-ups in adulthood

She discussed the differences between adolescent and adult acne.

Characteristics	**Teenage acne**	**Adult acne**
Age	10–19 years *(a)*	>25 years
Gender	More common in men	More common in women
Severity	Mild: comedonal type Severe: nodulocystic type	Generally mild inflammatory-papular type
Location	Affects the face: cheeks, trunk	Affects the face: cheeks, chin, mandible, rare trunk involvement
Type of lesion	Comedones	Inflammatory papulopustular lesions

Comedones	Common	Rare, but more common in smokers
Inflammatory papules	Common	Very common
Cysts	They may be present, depending on severity	Rare
Scars	Depending on severity	Common
Sebum production	Increased	Increased
Microbial flora	*Cutibacterium acnes* (*C. acnes*)	*Cutibacterium acnes* (*C. acnes*)
Hormonal disturbance	May be present	Very common
Response to treatment	Good	Frequently refractory/relapses common

(a) Acne occurring between the ages of 10 and 24 years should be referred to as "juvenile acne".

Treatment can follow the Academy's guidelines recently published this year, although the major therapeutic challenge is not about the algorithm, but about how we achieve adherence to treatment in these patients.

Some tips she recommended to achieve this: give written instructions, avoiding complicated regimens, making use of combined agents to reduce the number of products. Explain proper use (on the entire area, not occasional) and possible adverse effects.

With regard to spironolactone, she reviewed the indications for its use in both adults and female adolescents:

- Persistent or recurrent adult acne
- Women with premenstrual flare-ups
- Cases refractory to other treatments
- Non-candidates for isotretinoin
- Signs of hyperandrogenism
- In monotherapy or combined with Ab for the first three months
- Over 11 years old, 1 year post-menarche

- Significant improvement in 66% at doses of 50–100 mg/day.

Finally, with regard to acne and BMI, she said there is no consensus, with contradictory results on any relationship. Therefore, focusing on diet is discouraged, as the adolescent population is highly prone to eating disorders. Only suggest healthy habits.

Acne/Rosacea. Low-dose isotretinoin. Cost-benefit analysis.

Speaker: Dr Carlos Montealegre Gomez

He began the presentation by summarising the clinical characteristics and discussing its pathophysiology, impact on quality of life and current treatments, with emphasis on the use of isotretinoin.

With regard to acne, he highlighted the following points:

- Chronic inflammatory disease with pre-inflammatory and pro-inflammatory stages
- It mainly affects the head and trunk, significantly impairing quality of life.
- It predominates in adolescents and young adults, but can occur in any age group.
- With regard to pathophysiology:
- Genetic factors
- Hormonal factors: IGF-1, androgens
- Pathogenic phylotypes of *C. acnes* such as biotypes IV and V
- Hyperkeratinisation, impaired sebum production and impaired sebum quality

With regard to rosacea, he emphasised the following concepts:

- Chronic inflammatory disease with vascular hyperreactivity and follicular inflammation
- It mainly affects middle-aged individuals, although it can start at a younger age.
- Pathophysiology:
- Less genetic involvement than in acne
- Factors related to impaired skin barrier predominate
- Vascular and glandular disturbances, with a significant inflammatory component that may progress to fibrosis

He reminded us of some concepts about isotretinoin.

- It is the most effective therapy to treat severe acne, with an excellent cost/benefit ratio, especially in middle-income countries such as Colombia.
- Although adverse effects are mainly cutaneous and manageable, clinical follow-up is crucial.
- Isotretinoin may also be a valuable option in rosacea, although its use should be considered as second-line treatment and be limited to well-screened cases.
- Natural vitamin A derivative approved by the FDA in 1982
- Highly lipophilic
- Regulation of keratinisation and inhibition of *C. acnes* through RARs
- Reduction of sebaceous activity through pro-apoptotic effects on sebocytes mainly affecting p53
- Anti-inflammatory effects through modulation of macrophages and neutrophils
- Common side effects: mucocutaneous, easily manageable
- Serious complications (liver reactions, severe skin reactions) are rare, and there is no evidence of a causal relationship with suicide.
- Monitor: mainly triglycerides, transaminases and rule out pregnancy in women

Indications for low-dose isotretinoin in acne:

- Definition of low doses:
    - 0.3–0.4 mg/kg/day, (approx. 20 mg daily)
    - Very low doses: Less than 10 mg daily
- Advantages of low doses:
    - Reduction of side effects:
    - Improved adherence:
    - Ideal for patients with high sensitivity to side effects or a history of intolerance to standard doses
    - Severe acne cases may benefit from combination therapy with corticosteroids to control initial inflammation
- Duration of treatment:
    - Continue until the patient is free of new lesions for 2–4 months.

    - Discontinue when there is sustained improvement, without needing to reach a strict cumulative dose of 150 mg/kg, although some patients may require up to 200 mg/kg.

Indications for low-dose isotretinoin in rosacea:

- Effectiveness of low doses
    - They are particularly useful in granulomatous and phymatous rosacea and in cases with severe inflammation.
    - Doses under 20 mg/day are effective, although there is no clear consensus on their use in this condition.
- Advantages in rosacea:
    - They help control inflammation without the need for high doses, reducing the risk of side effects.
    - Better long-term tolerance, especially in patients with more sensitive skin.
- Duration of treatment:
    - In the literature, an average of 4 months is suggested, but in clinical practice some patients may require more prolonged treatments.

Conclusion: In both conditions, low doses of isotretinoin have proven to be an effective and safe strategy with fewer side effects than conventional doses. In acne, low doses are well studied and widely used, showing high efficacy even in severe acne when used in combination with corticosteroids. In rosacea, low doses are a promising alternative for refractory cases, although they are considered second-line treatment, and their implementation depends more on clinical experience than on formal guidelines.

Topical treatment in acne, tips on skin of colour

Speaker: Dr Jannell Obregon Alzamora

She began by stating that post-inflammatory hyperpigmentation is often the initial concern in acne patients, and is exacerbated by ethnic, geographic and climatic factors.

Her presentation was based on a summary of topical treatment recommendations from the 2024 AAD guidelines and 2021 NICE guidelines.

Fixed combinations:

First-line treatment because of their effectiveness, low cost and ability to improve adherence. They use multiple mechanisms to maximise effectiveness.

Minimum recommended duration: 12 weeks, assessing results after this period

Topical monotherapy:

Useful in specific cases, but less effective than combinations.

Clinical response can be found within 6–8 weeks. Informing patients about this time is essential to manage expectations.

Topical treatment options:

Topical retinoids (including tretinoin, adapalene, tazarotene and trifarotene):

- Comedolytic and anti-inflammatory
- Improve depigmentation
- All have similar effectiveness, although tolerance varies depending on the vehicle and concentration.
- 0.1% adapalene: ideal for sensitive skin due to less irritation
- Start with low concentrations and increase gradually.
- Apply intermittently (3 times a week) for the first few weeks.
- Wash the treated area one hour after application in patients with sensitive skin.

Benzoyl peroxide:

- Mild comedolytic, for inflammatory and non-inflammatory lesions. Prevents bacterial resistance.
- Low concentrations (3%) minimise side effects.
- Use twice daily for two weeks; it is safe and effective.
- Ideal in combination with topical antibiotics to avoid bacterial resistance

Topical antibiotics:

- Not recommended in long-term monotherapy due to bacterial resistance
- Effective in combination with benzoyl peroxide
- Caution: The combination of benzoyl peroxide with dapsone may cause temporary skin colouring (orange or brown).

Conditional recommendations:

- Clascoterone: topical anti-androgen, inhibits lipid synthesis and inflammatory cytokines. Disadvantage: expensive.

- (0.5–2%) salicylic acid: reduces open comedones and inflammatory lesions
- Azelaic acid: comedolytic, anti-inflammatory, antibacterial, depigmenting. Excellent choice for sensitive skin, adult female acne and high phototypes. Use 15% strength twice a day.

Special considerations: *Patients with high phototypes:* They require greater care due to the propensity for hyperpigmentation and scarring. Use topical combinations and strict photoprotection.

Pregnant women: No risk: Oral acid, BPO, erythromycin, clindamycin, salicylic acid: safe in small areas and for a short time.

Tips to avoid hyperpigmentation due to acne:

Start treatment early and avoid touching lesions.

Use mild cleansers, moisturisers and broad-spectrum sunscreens.

Conclusion: Topical acne treatment should be personalised, taking into account the severity, skin type and preferences of the patient. Fixed combinations and starting with a low dose are key strategies to improve adherence and clinical outcomes. Photoprotection is essential, especially for high phototypes.

Benzoyl peroxide in rosacea

Speaker: Dr Minerca Gomez Flores

She reminded us of the approved treatments for rosacea.

- Doxycycline
- (0.75–1%) metronidazole: widely used in monotherapy or in combination
- (15%) azelaic acid: anti-inflammatory and depigmenting effects
- Sulfacetamide with sulphur: keratolytic and antibacterial action
- (1%) ivermectin: ideal for inflammatory and pustular forms
- Minocycline foam
- 0.33% brimonidine gel
- 1% oxymetazoline cream

Encapsulated benzoyl peroxide (new 5% formulation) approved in 2022.

- Powerful antioxidant, antibacterial, keratolytic, comedolytic and anti-seborrhoeic product

- Indications: monotherapy, maintenance treatment or in combination with antibiotics/retinoids for a synergistic effect

- Adverse events: irritation, exfoliation and contact dermatitis, limiting its use as a first-line treatment

Evidence on benzoyl peroxide in rosacea:

- Historically not included in mainstream guides (European, Latin American and Canadian groups).

- Studies from 2004 and 2008 show the efficacy of benzoyl peroxide when combined with other topical treatments such as metronidazole, especially in papulopustular rosacea.

- In 2019, new, more tolerable formulations began to be included in Swiss guidelines, but not in other international guidelines.

- Recent studies (2022): Advances in vehicles (silica microencapsulation) enable slow and sustained release, improving tolerance and efficacy. Results after 4 weeks, with lesions clearing by 44–50% at 3 months. Low adverse effect rate (<2%), suggesting usefulness in selected cases where other treatments fail to achieve therapeutic goals.

Although encapsulated benzoyl peroxide is an emerging option with promising results, it is not yet widely adopted in mainstream guidelines. Its use is recommended in selected cases, particularly when other treatments fail to clear lesions, while taking into account its adverse effects.

Demodex in rosacea: cause or consequence?

Speaker: Dr Paulo Jorge Tavares da Silva Lamarão

He recalled by way of introduction:

- *Demodex folliculorum* and *Demodex brevis* mites are microscopic microorganisms that are part of the natural microbiome of human skin.

- They live mainly in pilosebaceous follicles and sebaceous glands. Although they are not normally harmful, they can proliferate excessively under certain conditions.

- This proliferation is associated with clinical conditions such as demodicosis and rosacea.

- Their role in the pathophysiology of diseases such as rosacea has been the subject of debate for more than a century.

- It has been debated whether their exacerbated presence is a causative factor or simply a response to pre-existing inflammation in the affected skin.

Clinical signs related to *Demodex spp.*

1. Primary demodicosis:
    - Moderate shedding of hair follicles without marked inflammation
    - It is usually mild and occasionally unilateral.
2. Rosacea-like demodicosis:
    - Clinical manifestations similar to those of papulopustular rosacea
    - This type of demodicosis may mimic or coexist with rosacea.
3. Palpebral involvement:
    - *Demodex spp.* can also involve the eyelids, causing blepharitis.

Relationship between *Demodex* and rosacea

- The pathophysiology of rosacea is complex and multifactorial, with the interaction of environmental, genetic, immunological and neurovascular factors.
- In this context, the role of *Demodex spp.* has been extensively discussed.
- Recent studies suggest that, in certain cases, papulopustular rosacea could be considered a chronic infection mediated by *Demodex spp.*

Arguments in favour of the causal role of *Demodex* in rosacea

1. High density on affected skin:
    - Several studies show that patients with papulopustular rosacea have a higher mite density compared to the general population.
    - In the rare cases where high levels of *Demodex spp.* are not detected, this could be due to false negatives or mite elimination due to the host's immune response.
    - In patients with rosacea, histopathology showed a perifollicular lymphohistiocytic inflammatory infiltrate and granulomas associated with the presence of *Demodex*. (T helper 17 cells)
2. Stimulation of innate and adaptive immunity:
    - *Demodex spp.* can activate TLR2 receptors, with subsequent release of LL-37 (cathelicidin), a peptide with immunomodulatory and antimicrobial action, which is overexpressed in rosacea.

    - Skin barrier disruption
    - They can also induce adaptive immune responses through antigens released during their life cycle, such as endocuticles and exocuticles, and endobacteria (*Bacillus oleronius*).

3. Therapeutic evidence:
    - Topical antiparasitic agents such as ivermectin have been shown to be highly effective in the treatment of papulopustular rosacea.
    - Their effectiveness supports the hypothesis that *Demodex spp.* is a key factor in the pathogenesis of the disease.

Arguments against a causal role

- The proliferation of *Demodex spp.* may not be the primary cause, but a consequence of the inflammation in the affected skin.
- As a chronic inflammatory disease, rosacea could create a favourable environment for mite reproduction, perpetuating an inflammatory cycle.

Conclusions and recommendations

- Excessive proliferation of *Demodex spp.* could be considered a necessary but insufficient factor in the pathophysiology of rosacea.
- The interaction between *Demodex spp.* and other predisposing factors (environmental, genetic, immunological and neurovascular factors) would be crucial for the development and perpetuation of the disease.
- *Demodex spp.* play an important role in the pathophysiology of rosacea, especially in papulopustular forms.
- Topical anti-parasitic treatments are recommended as first-line treatment in these cases.
- However, further research is important to better understand this complex interaction and to develop more targeted therapeutic strategies.

Good vs bad bacteria in rosacea and acne

Speaker: Dr Vicente Manuel Navarro Lopez

He began his presentation with a brief introduction.

- Although the mechanisms by which the gut microbiota influences the progression of different skin pathologies are not fully established, some studies have shown that patients experience dysbiosis with reductions in the diversity, richness and short-

chain fatty acid (SFCA)-producing bacteria. This microbial disturbance is responsible for intestinal bacterial translocation and thus for low-grade systemic inflammation.

- Modulation of the gut microbiota by administering probiotics as an adjuvant or alternative therapy could improve the effectiveness of conventional therapy and reduce its adverse effects.

- In a 2015 study, traces of bacterial DNA were detected in the blood of patients with severe psoriasis flares, suggesting intestinal bacterial translocation as a trigger for systemic inflammation.

He went on to outline his research group's studies with different strains that could have a beneficial effect on acne.

Probiotics (*Lacticaseibacillus rhamnosus* CECT 3001) + Spirulina (*Arthrospira platensis* BEA_IDA 0074B)

1. In a pilot pre-clinical trial, *Lacticaseibacillus rhamnosus CECT 3001* showed:
    - Systemic anti-inflammatory effects on blood inflammatory markers: IL-10, LPS, bacterial DNA
    - Clinical improvement of acne according to GAGS, AGSS and number of inflammatory lesions
2. Spirulina as a functional *Cyanobacterium* (*Arthrospira platensis* BEA_IDA 0074B)
    - Although it is not part of the gut microbiota, it has anti-inflammatory properties because it contains phycocyanin.

Microbiological findings to date according to the various studies published thus far

- Acne patients have decreased short-chain fatty acid producing bacteria (which promote a healthy intestinal barrier).

- This imbalance can favour bacterial translocation and perpetuate inflammation.

With regard to rosacea and gut microbiota, based on recent publications, he presented a randomised, double-blind, placebo-controlled clinical trial he is currently conducting with his working group in which *Lacticaseibacillus rhamnosus CECT 30579* and *Bifidobacterium Longum CECT 30615* are being assessed.

General conclusions on microbiota and skin diseases

- Decreased bacterial biodiversity in the gut, especially of short-chain fatty acid producing bacteria

- Use of specific probiotics as an intervention to reduce systemic and skin inflammation
- Current studies seek to confirm whether manipulation of the gut microbiota can directly influence the origin and progression of these diseases.

Symposium: Acne/Rosacea 2

Coordinators: Dr Emilia Noemí Cohen Sabban and Dr Jaime Piquero Casals.

Speakers: Dr Emilia Noemí Cohen Sabban, Dr Andrea Santos Muñoz, Dr Adrián Alegre Sánchez, Dr Oscar Jairo Valencia Ocampo, Dr Jaime Piquero Casals, Dr Jose Luis Lopez Estebaranz, Dr Edgar Enrique La-Rotta Higuera, Dr Jaime Alberto Rengifo Palacios.

Acne treatment algorithm update

Speaker: Dr Emilia Noemí Cohen Sabban

- She summarised the latest guidelines and reviews published in 2024.
- Main points highlighted by the speaker:

1. Microbiological tests:

- Antibiotic sensitivity tests and cultures are not routinely recommended in acne patients. Exceptions: in the event of suspected gram-negative or pityrosporum folliculitis or other infections.

2. Endocrinological tests:

- Routine hormone testing should not be performed in all patients with acne.
- In women with menstrual disturbances or polycystic ovary syndrome (PCOS) symptoms, hormone studies such as LH/FSH, total and free testosterone, androstenedione and DHEA should be performed.
- Request 17-hydroxyprogesterone for suspected late-onset congenital adrenal hyperplasia.

3. Topical treatments (the basis of treatment at all stages)

- Retinoids: They are the mainstay in the topical treatment of acne, and their use should be continuous, as they demonstrate high effectiveness at different acne stages.
- Topical antibiotics: never as monotherapy
- PBO (benzoyl peroxide): It should be part of the therapy to treat inflammatory lesions, as it also acts against resistant strains.

- Azelaic acid: useful in patients with mild-to-moderate acne, especially in pregnant women and those with high phototypes

- 1% clascoterone: a new topical anti-androgen, effective in men and women over 12 years of age with mild-to-moderate acne. It may be an alternative option to systemic hormone treatment.

- As a final recommendation: combine different mechanisms of action.

4. Systemic treatments:

- Systemic antibiotics: Tetracyclines are first-line treatments for moderate-to-severe acne that is unresponsive to topical treatment or involves multiple sites. Sarecycline is a new tetracycline with less impact on the gut microbiota. However, antibiotic use should be limited to avoid resistance, with treatment not exceeding 3–4 months.

- Oral contraceptives: Combined (oestrogens + progestins) contraceptives are useful, especially fourth-generation ones (such as drospirenone), and can be used with no significant risk of interaction with antibiotics.

- Spironolactone: Used as an anti-androgen, it is effective in women, especially in combination with oral contraceptives because of its synergistic action. Potassium levels do not need to be monitored in women under 45 years of age. It is currently not FDA-approved.

5. Isotretinoin:

- Cumulative dose: A fixed dose of 120–150 mg/kg is no longer recommended. The current approach is to treat until complete clinical improvement is achieved. In some cases, isotretinoin may be suspended before the traditional dose is reached.

- Side effects: Although the relationship with neuropsychiatric diseases and inflammatory bowel diseases has been refuted, the patient's history should always be assessed.

- During treatment, superficial peels, non-ablative lasers, and light therapies can be performed, including those for hair removal, vascular treatments and non-ablative fractional lasers.

6. Cosmeceuticals:

- In acne patients, the skin barrier is compromised. It is essential to use products that help repair the barrier, such as gentle cleansers, moisturisers and sunscreens. This is key to improving treatment outcomes.

7. Diet and probiotics:

- Diet: It is important to avoid foods with a high glycaemic index, which promote inflammation and increased sebaceous secretion. Dairy plays a less clear role, affecting some but not all populations.

- Probiotics: Probiotics, especially those that increase interleukin-10 (such as some *lactobacilli*), have been shown to help reduce inflammation and acne lesions. Supplements with multiple strains and botanical extracts have also shown benefits and should be used from the start of treatment, especially if systemic antibiotics are indicated.

Isotretinoin: the good, the bad, the ugly

Speaker: Dr Jose Luis Lopez Estebaranz

Treatment with oral isotretinoin is considered to be the most effective option for acne treatment, especially in moderate and severe cases. However, there are several issues to consider when using this medicine.

The good:

- Efficacy: Isotretinoin eliminates nearly all lesions at 12 weeks and is the most effective option (87%) compared to oral antibiotics or topical treatments.

- Results: Oral isotretinoin treatments show better results in terms of reducing inflammatory lesions, although they may leave scarring.

The bad:

- Contraindications: It is not indicated in patients with some conditions or in those who have already received other treatments, due to its teratogenicity.

- Side effects: The most common side effects include mucocutaneous side effects, increased triglycerides (19%) and liver disorders. High doses, although effective, carry a higher risk of adverse effects.

The ugly:

- Recurrence: Although higher doses appear to be more effective, acne recurrence rates (12.5%) are still a concern, even when high cumulative doses are achieved. Recurrence depends on several factors, such as acne severity, the presence of hyperandrogenism, age (fewer recurrences in individuals over age 30) and other factors such as smoking.

Dose considerations:

- High doses may be necessary for severe acne or when rapid resolution of lesions is needed, but its use does not guarantee a lower recurrence rate. He recommended also using high doses in young adults, individuals with a family history of acne and acne with truncal involvement.

- Low doses (0.1–0.4 mg/kg/day) are increasingly recommended, even in moderate acne, due to fewer side effects and a reduced risk of recurrence. Other low-dose indications: sensitive skin, adult female acne, mild-to-moderate acne with significant seborrhoea.

How to improve isotretinoin treatment

- Use of antihistamines and omega-3s: Adding in antihistamines, such as levocetirizine, can increase treatment effectiveness, reduce skin side effects (such as xeroderma and cheilitis) and improve adherence. In addition, the use of omega-3 (two 1040 mg capsules/day) helps to reduce mucocutaneous side effects, preventing exacerbation of isotretinoin side effects.

- Combination with other treatments: The use of low doses combined with other treatments such as non-ablative laser and fractional radiofrequency has shown good results, improving healing without significant adverse effects.

The microbiome in acne and rosacea

Speaker: Dr Andrea Santos Muñoz

The human microbiome, particularly the skin microbiome, is a complex ecosystem composed of a vast array of microorganisms, including bacteria, fungi, viruses and Archaea. Overall, 30% of the cells in our body are human, while 70% are bacteria, of which there are more than 1,000 species that colonise different areas of the human body.

The microbiome refers to the set of microorganisms, their genes and metabolites that colonise different parts of the human body. This term encompasses not only bacteria, but also fungi, viruses and Archaea. The skin microbiome is therefore a collection of bacterial organisms that inhabit our skin, playing a key role in skin protection, regulation, repair and immune tolerance.

The composition and function of the skin microbiome is influenced by multiple intrinsic and extrinsic factors. Intrinsic factors include genetics, age, gender and disease, while extrinsic factors include environment, hygiene habits and use of cosmetic products. The skin is divided into different areas with their own microbial characteristics: dry, moist and sebaceous areas, each with a bacterial flora adapted to its local conditions.

The microbiome changes throughout life. In newborns, the microbiome is less diverse and unstable, making it more susceptible to disturbances from external factors such as inappropriate use of antibiotics, which can permanently alter bacterial composition. In children and adolescents, the microbiome remains highly dynamic and vulnerable to factors such as environment, diet and interaction with others. In adulthood, the microbiome stabilises and becomes more diverse, contributing to protection against infection. In the elderly, microbial diversity decreases and the microbiological composition of the skin tends to be more homogeneous among individuals.

Microbiome disturbances, especially early in life, can have long-lasting effects and are associated with increased susceptibility to a variety of diseases, including inflammatory skin diseases.

The skin microbiome has multiple functions including protection against pathogenic microorganisms, immune system regulation and repair of the skin barrier. It also plays a crucial role in immune tolerance, helping to maintain the balance between immune responses and preventing exaggerated responses that can lead to inflammatory diseases.

The skin barrier itself is now understood to be a dynamic structure where the microbiome plays a central role. A healthy microbiome, characterised by balanced and stable microbial diversity, is essential for maintaining skin integrity. Any disturbance in this balance can lead to dysbiosis, which in turn predisposes individuals to inflammatory skin diseases.

In the past, acne was associated with increased *Cutibacterium acnes* proliferation. However, more recent research suggests that it is not simply an increase in the amount of *C. acnes*, but a decrease in the skin's bacterial diversity, with proliferation of more pathogenic *C. acnes* strains (phylotype IA1-IB), which contributes to the onset of inflammatory lesions.

In addition, though normally considered to be an opportunistic pathogen, *Staphylococcus epidermidis* actually plays a protective role in the skin. These bacteria produce antimicrobial peptides that inhibit the proliferation of pathogenic *C. acnes* strains and may actually promote the production of interleukin-10, which modulates immune response in acne.

As regards rosacea, research on the microbiome is less advanced, but some studies suggest that *Demodex folliculorum*, a mite naturally present on the human skin, plays a crucial role in the pathogenesis of rosacea. Interaction between *Demodex* and other microorganisms, such as *Bacillus oleronius*, may aggravate rosacea symptoms, especially in patients with increased skin temperature. Although *S. epidermidis* is protective in acne, in rosacea it can have an adverse effect under certain conditions, exacerbating skin inflammation.

The gut microbiome also affects the skin, especially in inflammatory diseases such as acne and rosacea. A gut microbiome imbalance, with a decrease in beneficial bacteria such as *Firmicutes* and an increase in *Bacteroidetes*, can trigger systemic inflammation which, in turn, affects skin health. Dietary factors, such as a diet rich in refined sugars and saturated fats, can disrupt both the gut and skin microbiomes, exacerbating inflammatory skin conditions.

The treatment of dermatological conditions associated with disturbances in the microbiome should focus on restoring a balanced skin microbiome. In this regard, considering the use of oral probiotics, prebiotics and topical postbiotics was recommended to promote microbial diversity and improve skin health. However, there is still little scientific evidence on the effectiveness of these treatments.

In summary, the skin microbiome is an essential component of dermatological health. Maintaining its diversity and balance is key to preventing and treating acne, rosacea and other chronic inflammatory conditions.

Treatment of truncal acne

Speaker: Dr Adrían Alegre Sánchez

Truncal acne affects a large proportion of acne patients, as more than 50% of patients with facial acne also have lesions on their trunks. Many do not see a doctor for these lesions because they consider them less important, believe they are untreatable or confuse them with other conditions. This type of acne may influence the choice of treatment for facial acne, as the severity of lesions on the trunk is often greater than on the face, requiring a more intensive treatment approach.

Although there are few studies on the impact on the quality of life of patients with truncal acne, these patients, who are mostly adolescents and young adults, have been found to experience a significant impact at certain times of the year, such as in the summer. In a study in nearly 1,000 patients, 92% were found to have facial acne, 61% back lesions and 45% anterior trunk lesions. This shows that the most affected areas in truncal acne are the back, followed by the chest and shoulders. Furthermore, less than 5% of truncal acne cases are confined to this area, suggesting that the condition almost always coexists with facial acne.

Truncal acne tends to be more common in men and its onset is later than facial acne. A relationship has been found with high testosterone levels, which favour the appearance of acne in this area.

A differential diagnosis is crucial, as truncal acne can be confused with fungal folliculitis, acneiform eruptions, miliaria, or even with hidradenitis suppurativa or acne conglobata in some cases.

The aetiopathogenesis of truncal acne is similar to that of facial acne, with impaired follicular keratinisation and an exacerbated immune response (overexpression of TLR4, IL-2 and IL-10, and decreased MMP9). However, unlike facial acne, hyperseborrhoea is not always found, which means that treatment may differ. In addition, patients with truncal acne have a higher predisposition to develop scarring, especially in dark phototypes, and to develop post-inflammatory pigmentation.

The treatment of truncal acne is challenging due to the extent of the lesions and the difficulty in applying topical treatments over large areas. Topical retinoids such as trifarotene are effective, but their use may cause irritation, so intermittent application is recommended. Other topical treatments may include 7.5% dapsone gel or 10–20% azelaic foaming solution.

Oral treatments, such as isotretinoin, are effective, but due to the lesser relationship with sebaceous secretion, their action is slower, requiring higher doses. Tetracyclines are effective for severe inflammation and spironolactone for adult female acne. Finally, adalimumab is useful for acne fulminans or conglobata.

In addition, it is important to address external factors such as hyperhidrosis, which can contribute to acne exacerbation, or the use of protein supplements or testosterone.

As for cosmetic treatments, the doctor recommended using exfoliating products and body sprays with salicylic acid.

Zinc gluconate, at a dose of 30 mg daily for 3 months, has also proven effective in some cases.

Laser treatments can be helpful, especially vascular lasers for inflammation and remodelling devices for scars. In some cases, photoepilation is recommended to prevent and treat scarring in areas where acne is more severe.

Acne in adult women: tips and pearls

Speaker: Dr Oscar Jairo Valencia Ocampo

Acne in adult women has become a growing concern in dermatology, as it has a high prevalence in this cohort, even reaching 15% in menopausal women.

Acne treatment in adult women requires a thorough assessment of various factors influencing the pathogenesis of the disease. Some of the most relevant factors are the use of irritating cosmetics, diet, stress and sleep deprivation. Therefore, an empathetic and holistic approach, including the emotional assessment of the patient, is essential for effective treatment.

Acne in adult women is often related to hyperandrogenism, especially in cases of polycystic ovary syndrome (PCOS). Typical signs include seborrhoea, hirsutism and androgenic alopecia.

It is important to remember that combined oral contraceptives are still a key treatment option in these patients. In addition, spironolactone has been shown to be superior to clindamycin in the treatment of acne in adult women, especially in women with signs of hyperandrogenism. Spironolactone acts as an anti-androgen, blocking the effects of androgens on the sebaceous glands. A total of 80% of patients have been found to respond positively to this treatment. Hyperkalaemia, one of the feared adverse effects of spironolactone, is rare in women under 45 years of age.

It is also frequently associated with metabolic comorbidities, such as insulin resistance, especially in patients with polycystic ovary syndrome. Obesity, accompanied by acanthosis nigricans, is also a common finding. In these cases, insulin sensitisers such as metformin have proven beneficial, especially in women with body mass indexes (BMIs) over 25. In addition, inositol, known for its beneficial effects in the treatment of PCOS, is increasingly being used as a complementary treatment option.

It is essential for dermatologists to recognise that many adult women with acne also have sensitive skin, with impaired ceramide production and decreased mitochondrial function. Skin irritation from retinoid use is a common problem, as up to 50% of women may

experience adverse reactions due to skin hypersensitivity. The use of retinoids with lower irritant potential, such as retinaldehyde, and the use of intermittent treatments or low concentrations are recommended to minimise irritation. In addition, skin barrier care with emollients is key to improving tolerance to treatment.

Acne scarring is a common complication, especially in women with dark skin phototypes who are at increased risk of developing hypertrophic scarring and post-inflammatory pigmentation. Scar treatments should be aggressive to prevent the formation of hypertrophic scars, using effective topical therapy, such as those combined with benzoyl peroxide, which has shown good results. In women with dark phototypes, special caution should be exercised to avoid hyperpigmentation, as these patients are more susceptible due to increased skin inflammation.

Acne excoriée is common in women with psychological disorders. Up to 4% of patients have been found to suffer from this disorder. Intervention should be interdisciplinary, involving both dermatological and psychological treatment, as poor adherence to treatment is a major challenge. In these cases, it is essential to treat the underlying cause, such as anxiety or obsessive-compulsive disorder, which often leads to repetitive behaviours.

During pregnancy, acne affects up to 43% of women, and special care is needed in the treatment of these patients. Azelaic acid is a safe and effective option at all stages of pregnancy, as it poses no risk to the foetus. This active substance has anti-inflammatory properties and has been shown to be effective both in the treatment of acne and pigmentation disorders, such as melasma. In addition, azelaic acid is useful as long-term treatment in women with acne who do not respond to other conventional treatments.

Both topical and oral probiotics have been mentioned in some studies as a complementary therapeutic option for the treatment of acne. Although the efficacy of probiotics in acne has not yet been proven, it has been suggested that they may have a synergistic effect with oral antibiotics. Zinc gluconate has also been shown to be useful due to its anti-inflammatory properties and has been used successfully in the treatment of acne. A daily dose of 30 mg elemental zinc is recommended to reduce acne-related inflammation.

Holistic acne treatment should be the approach in adult women, considering hormonal as well as emotional and environmental factors. Finally, treatments should be tailored to the individual needs of each patient, with a focus on improving quality of life and adherence to treatment.

Cosmeceuticals in acne and rosacea

Speaker: Dr Jaime Piquero Casals.

The concept of “cosmeceutical” refers to products that offer both cosmetic and medicinal benefits.

The doctor’s main message was that cosmetics and medicinal products are not enemies.

Via their synergistic action, cosmeceuticals can improve treatment results and reduce side effects such as dryness or irritation.

The use of cosmeceuticals also improves adherence to medical treatment. These products can complement medicinal products and also act as a bridge between treatment phases to prevent rebound acne or reduce the adverse effects of more aggressive treatments, such as isotretinoin.

Examples of cosmeceuticals:

Cosmeceutical "all-rounder" acne, melasma, photoageing:

Glycolic acid (alpha hydroxy acid, small molecule that penetrates the skin very easily)

- In the stratum corneum, it decreases cellular cohesion (desquamation/exfoliation) and stimulates collagen, hyaluronic acid and fibroblast synthesis. It induces epidermal proliferation through basal keratinocyte proliferation mediated by TRPV1 activation and ATP release.

- Applying glycolic acid to the face repeatedly and regularly has been shown to significantly diminish facial wrinkles and ageing signs, such as dyschromia.

- Bactericidal properties, with an anti-inflammatory effect

- It is important to choose the right pharmaceutical form: cream (photoageing, dry skin) or gel (acne or seborrhoea).

Other cosmeceuticals useful in acne are:

- Salicylic acid (2% International Regulation) with exfoliating, keratolytic and antimicrobial properties. Fat-soluble.

- Zinc PCA: sebum-regulating and antimicrobial agent

- Biosaccharide gum-2: antimicrobial and soothing agent

- Niacinamide: sebum-regulating, anti-inflammatory, depigmenting agent

He also gave examples of formulations with synergistic cosmeceuticals for use on oily, acne-prone skin:

- Cleansing foams and treatment cream gel: zinc PCA + biosaccharide gum-2 (antimicrobial and soothing properties) + niacinamide

- Cleansing gel: zinc PCA + salicylic acid + vegetable glycerine

- Glycolic acid + salicylic acid spray for truncal acne and residual lesions

- Mandelic acid + salicylic acid + niacinamide - localised “on-the-spot” applications in gel applicator

- Treatment gel: retinal + zinc PCA + niacinamide

Retinoids (retinol and retinaldehyde) are used because they promote keratinocyte differentiation, normalise disordered keratinisation in sebaceous follicles, help to control lipid synthesis, strengthen barrier function, have a tone-unifying action and reduce inflammation.

Photoprotection is also fundamental in the treatment of skin conditions. The importance of sunscreens was emphasised, as they not only protect against UV radiation, but can also have anti-inflammatory and soothing effects, which are crucial in patients with conditions such as acne and rosacea. In rosacea, some sun creams contain anti-inflammatory active substances that improve skin appearance without causing irritation, which is especially useful in patients who want to avoid wearing make-up.

He named niacinamide, azelaic acid and glycine, among others, as cosmeceuticals used in rosacea.

Finally, the central message was that cosmeceuticals should be considered to be a comprehensive tool in dermatological practice. It is important for dermatologists to inform themselves about the properties of these products in order to appropriately include them in treatments, improving the quality of life of patients.

From the pathophysiology of rosacea to its treatment

Speaker: Dr Jaime Alberto Rengifo Palacios

He described the pathophysiology and possible treatments for rosacea elucidated thus far, arguing that rosacea is a complex condition. He affirmed that its treatment is still a challenge, despite over 100 years of knowledge.

Some key points:

One of the key factors is the microbiota, particularly the density of *Demodex spp.* which can trigger an inflammatory cascade. This process is amplified by some bacteria, such as *Bacillus oleronius,* which increase inflammation. In this context, TLRs and calcium channels are key in the activation of inflammatory and vascular responses.

Another relevant finding is LL-37, a peptide involved in inflammation as well as angiogenesis, which also contributes to the pathogenesis of rosacea.

Neurovascular mechanisms are key in rosacea. Burning sensations and transient receptor potential (TRP) receptor activation are mediated by factors such as capsaicin and other calcium channels, leading to vasodilation which is reflected in symptoms.

Several approaches are involved in the treatment of rosacea.

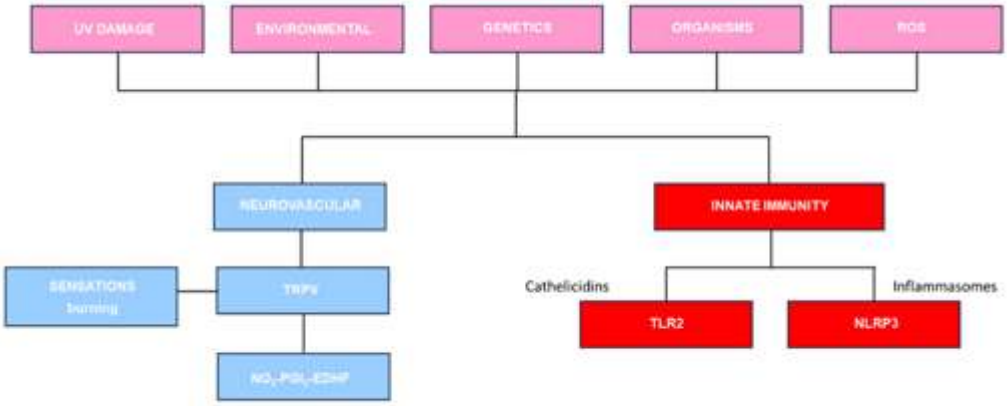
In the *innate immunity* area, medicinal products such as isotretinoin and tetracyclines stand out. In addition, the use of ivermectin and metronidazole shows good results as anti-inflammatory agents. Topical treatment may include protease inhibitors, which are under investigation, and medicinal products such as oxymetazoline for vasodilation.

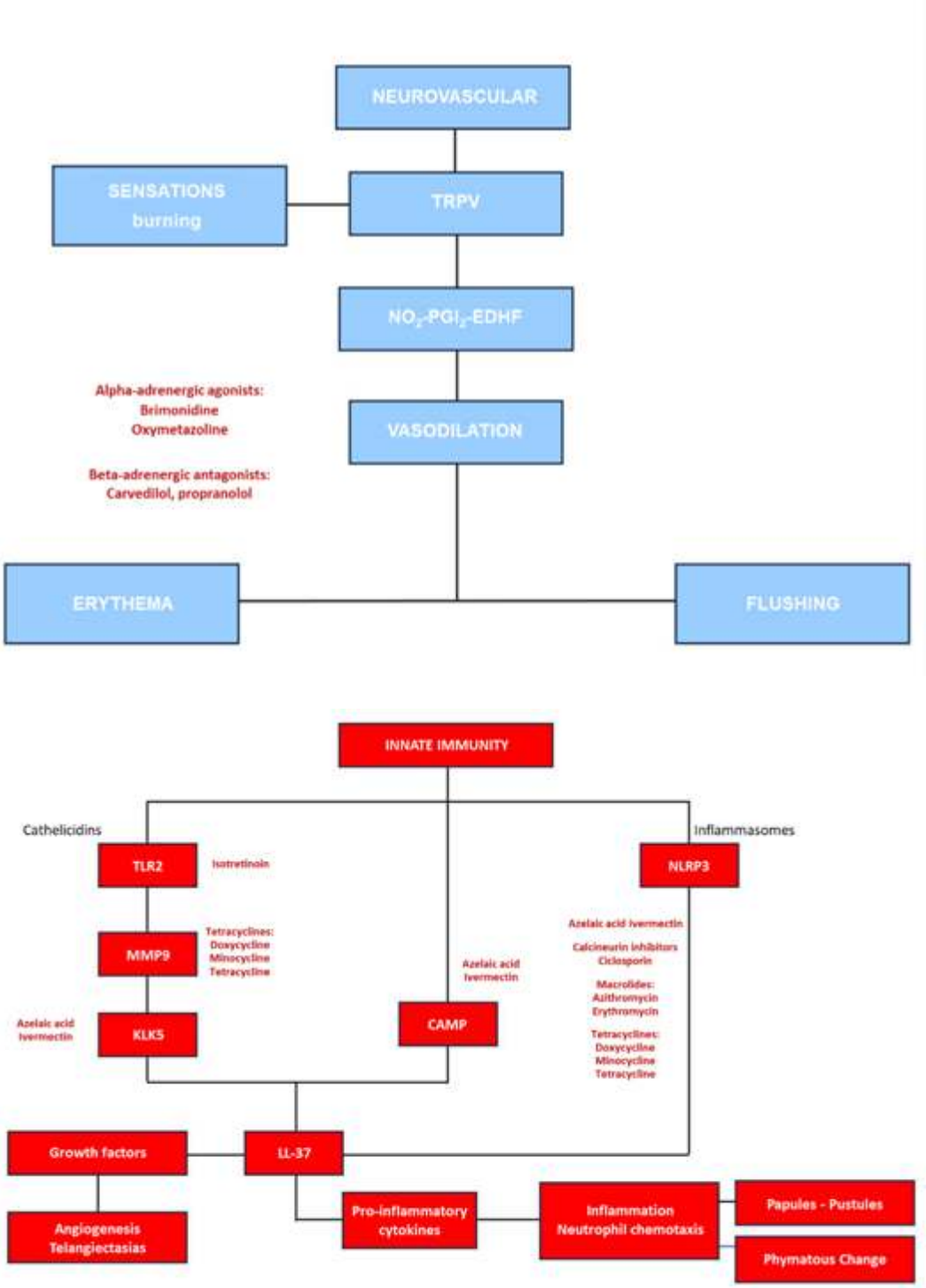
Promising treatments are being developed.

- ACU-D1 proteasome inhibitor: inhibition of nuclear kappa factor, with decrease of pro-inflammatory cytokines (ointment twice daily)
- B244: pro-inflammatory cytokine inhibitor (spray twice daily)
- CGB-400: inhibits KLK5 (gel twice daily)

In the long term, patient awareness of the importance of avoiding triggers is crucial. Dietary habits, such as avoiding seasoned and processed foods, are still recommended.

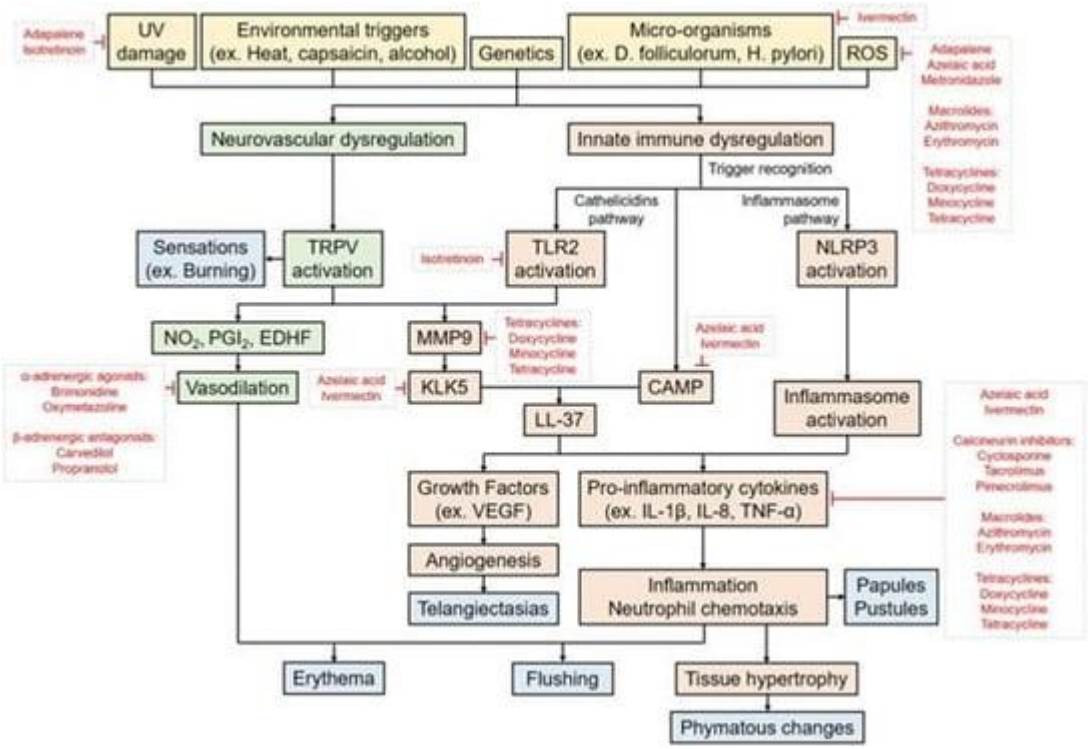
In terms of prognosis, treatment response depends largely on the underlying factors in each patient, making rosacea treatment complex but not impossible. The key is to personalise treatments according to aetiology and the patient's specific characteristics, highlighting the importance of a holistic and well-informed approach to the management of this condition.



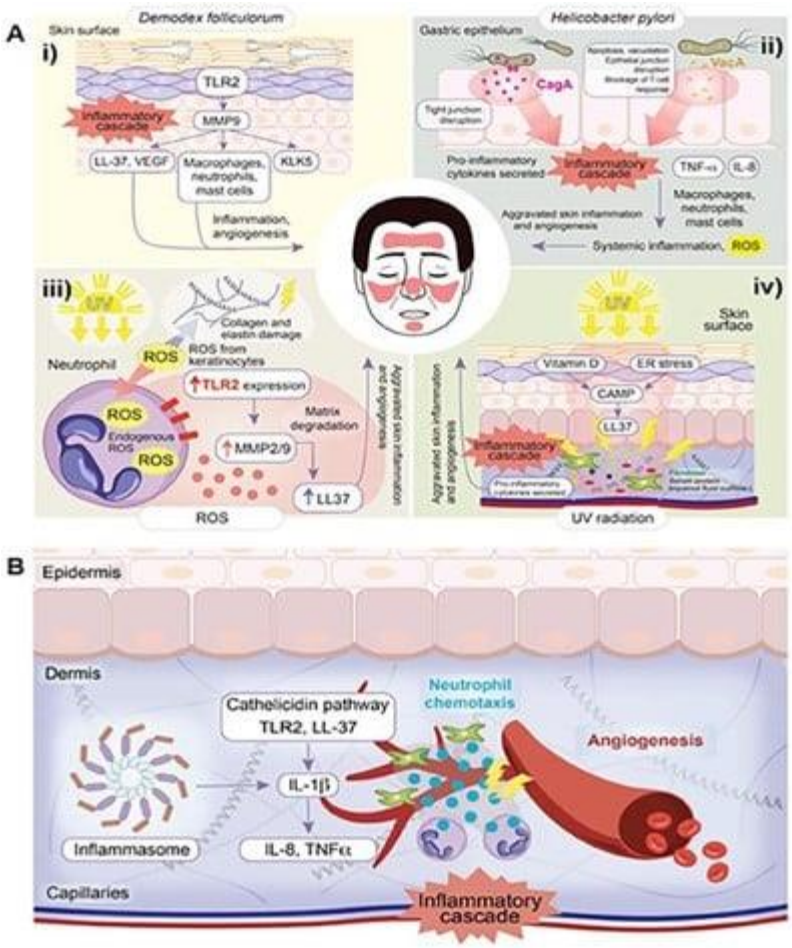


Below are the ORIGINAL charts the doctor presented in his lecture, which summarise both pathogenesis and the proposed treatment.

Geng, R. S. Q., Bourkas, A. N., Mufti, A., & Sibbald, R. G. (2024). Rosacea: Pathogenesis and Therapeutic Correlates. *Journal of Cutaneous Medicine and Surgery, 28(2), 178-189. https://doi.org/10.1177/12034754241229365.



Schema of the risk factors, triggers, and pathogenesis pathways of rosacea. The pathogenesis of rosacea likely involves a complex interplay between several factors and pathways, including neurovascular dysregulation and innate immune system dysregulation involving cathelicidins and inflammasomes. These processes then give rise to the symptoms and clinical features of rosacea, depicted in blue. Known targets of medications currently used in treating rosacea are indicated.



(A) Proposed cathelicidins pathway believed to be implicated in the pathogenesis of rosacea. Production of LL-37 leads to several physiological effects including angiogenesis, vasodilation, inflammation, and matrix degradation. (i) High densities of *Demodex folliculorum* upregulates the expression of TLR2 in sebocytes. Enhanced TLR2 activity leads to increased KLK5 activity and production of LL-37. (ii) CagA+ and VacA+ *Helicobacter pylori* strains stimulate mast cell activation and subsequent increase in histamines and prostaglandins, promoting inflammation. (iii) Through MMP2 upregulation and TLR2 signalling, ROS promote matrix degeneration and increase LL-37 production. promote matrix degeneration and increase LL-37 production. (iv) UV promotes expression of CAMP in keratinocytes via vitamin D-dependent and ER stress-induced pathways. CAMP can then be cleaved into the bioactive LL-37 fragments.

(B) Proposed inflammasome pathway believed to be implicated in the pathogenesis of rosacea. Inflammasome activation results in several physiological effects including chemotaxis of neutrophils, angiogenesis, and inflammation. The cathelicidins and inflammasome pathways are intricately linked. TLR2, toll-like receptor 2; KLK5, kallikrein-5; CagA+, cytotoxin-associated gene A positive; VacA+, vacuolating cytotoxin A positive; MMP2, matrix metalloprotease 2; ROS, reactive oxygen species; UV, ultraviolet; CAMP, cathelicidin antimicrobial peptide; ER, endoplasmic reticulum.

Pigmented dermatosis symposium

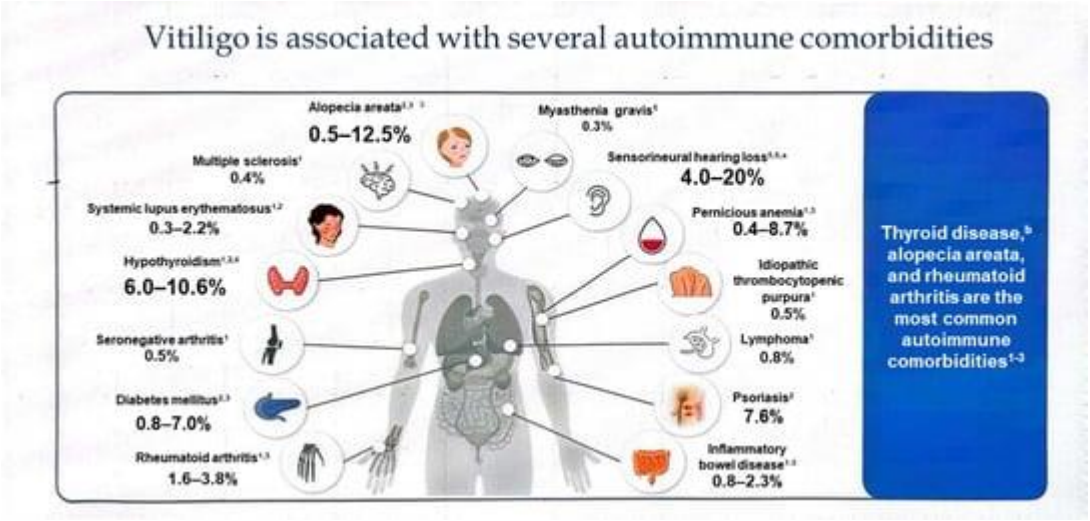
Coordinators: Dr Cesar Fernando Gonzalez Ardila and Dr Maria Ivonne Arellano Mendoza

Speakers: Dr Jose Luis Lopez Estebaranz, Dr Thierry Passeron, Dr Lourdes Rita Bárbara Vazquez, Dr Ana Cláudia Espósito, Dr Maria Ivonne Arellano Mendoza and Dr Katherine Perez.

Vitiligo. Clinical manifestations and differential diagnoses.

Speaker: Dr Jose Luis Lopez Estebaranz

He began his lecture by showing iconographies of patients with vitiligo and several differential diagnoses. He then highlighted that patients with vitiligo may have autoimmune comorbidities such as thyroid disease and rheumatoid arthritis, among others, as well as psychological comorbidities, such as anxiety and depression.



The association with thyroid disorders and neurosensory disorders such as hearing disorders is noteworthy.

He also reviewed the classification into segmental and non-segmental vitiligo, the latter being the most common. He highlighted some clinical variants such as follicular, inflammatory, hypomelanotic and trichrome vitiligo as well as vitiligo ponctué; or special locations such as genitalia and mucosa.

He also reminded us that 50% of all vitiligo cases begin before the age of 20, and that early treatment is important.

He also highlighted the importance of using Wood's lamp to assess the extent of vitiligo and identify lesions that may not be visible under normal light.

He also mentioned the signs of active vitiligo such as confetti-like lesions, Koebner's sign or the trichrome sign which indicate that the disease is active and requires urgent treatment to prevent progression.

For the rest of his presentation, he showed clinical images and some differential diagnoses for them.

- Naevus anaemicus: disappears on diascopy
- Nevus depigmentosus: hypomelanosis, but no absence of pigmentation
- Tuberous sclerosis: hypomelanotic ash-leaf macules and guttate leukoderma, with skin lesions usually being the first to appear
- Lichen sclerosus and atrophicus: asymptomatic or mildly pruritic whitish plaques with peripheral erythema and smooth ivory surface
- Piebaldism and albinism
- Idiopathic guttate hypomelanosis: chronic sun exposure
- Lichen planus - frontal fibrosing alopecia
- Systemic sclerosis: a salt-and-pepper appearance
- Infections: leprosy, tinea versicolor, progressive macular hypomelanosis
- Mycosis fungoides: desquamation, erythema, atrophy
- Finally, he showed the case of a patient diagnosed with melanoma who, after receiving pembrolizumab, developed vitiligo-like lesions only in the area where the patient had melanoma lesions and metastases.

In conclusion: Vitiligo is a complex condition with varied clinical presentations and associated comorbidities. Early diagnosis and treatment are essential in order not to miss the therapeutic window of opportunity.

Vitiligo. Update in medical approaches.

Speaker: Dr Thierry Passeron

He began his presentation by outlining three objectives in vitiligo treatment:

- Stopping depigmentation
- Inducing pigmentation, a process that generally takes between 6 and 24 weeks
- Preventing relapses

Before starting treatment, it is essential to determine whether vitiligo is active (Koebner, confetti-like depigmentation, hypochromic borders) and, if detected, treatment should be urgently initiated and the combination of NB-UVB with oral mini-pulse steroids (e.g. methylprednisolone) is recommended.

Then, to induce pigmentation, it has been shown that the best strategy is the combination of NB-UVB phototherapy or sun exposure with topical treatments, such as topical calcineurin inhibitors or high-potency corticosteroids.

As a prophylactic strategy for relapse he recommended:

- Localised vitiligo: 0.1% tacrolimus twice weekly, which decreases the risk of relapse from 40% to almost 10%.
- Generalised vitiligo: 2 to 4 sessions of UVB per month, being only an expert recommendation, with little evidence

New therapeutic agents:

- Topical ruxolitinib (1.5% cream): approved by the FDA and the EMA, from the age of 12 years. It has shown good results in monotherapy, but is even better in combination with other treatments such as NB-UVB. It is generally safe, with mild side effects.
- JAK inhibitors (ritlecitinib, povorcitinib, upadacitinib, baracitinib): they have shown promising results, with phase 2 and 3 clinical trials underway. These often work best in combination with NB-UVB.

Other approaches:

- Afamelanotide, an α-MSH analogue; its use is limited to darker phototypes
- GP-SOD, a gastroprotective antioxidant, has been shown to improve results when combined with NB-UVB.

Nutrition, oxidation and pigmentation disorders

Speaker: Dr Almudena Nuño Gonzalez

Hyperpigmentation, like melasma and lentigines, arises from a complex interaction of factors, including sun exposure, genetics and hormonal influences. A key factor is oxidative stress, which leads to increased pigment deposition. This occurs because of an imbalance between the production of free radicals (from mitochondrial respiration and external agents) and the body's antioxidant defences (enzymes such as superoxide dismutase and catalase, and non-enzymatic antioxidants such as glutathione and vitamins C and E). Oxidative stress activates tyrosinase, increasing pigmentation. In addition, DNA damage and advanced glycation end products (AGEs) also contribute to melanogenesis and pigment accumulation.

Although topical antioxidants are commonly used, there are multiple studies with mixed results for oral antioxidants and supraphysiological doses may disrupt the redox balance and promote pro-oxidative states.

She summarised the antioxidants that can be found in foods, including polyphenols; carotenoids; vitamins C, D and E; melatonin; and *Polypodium leucotomos*.

Polyphenols, which act as ROS scavengers, act synergistically with other antioxidant vitamins. They are mainly present in red fruits, chocolate, cocoa and wine. Studies show that extracts such as maritime pine bark and ellagic acid (in pomegranates and berries) can reduce pigmentation and are useful in the treatment of melasma and solar lentigines.

Carotenoids such as lutein (in green vegetables) and zeaxanthin (in yellow-orange vegetables) have antioxidant properties and are high-energy light filters. They are present in spinach, kale and peppers, among others.

Vitamins C and E are potent antioxidants found in a variety of food sources.

With regard to vitamin D, she suggested supplementation in the event of deficiency.

She mentioned glutathione as the main cellular antioxidant that also inhibits melanin synthesis. It is a copper chelator that disrupts tyrosine activity, interferes with tyrosinase transfer to premelanosomes and increases cysteine levels, which promote pheomelanin synthesis at the expense of eumelanin. It is not only obtained from several foods, but can also be synthesised through exercise, sleep or physical activity. According to clinical trials, the appropriate dose would be 500 mg/day.

Melatonin (a serotonin derivative), a potent antioxidant, regulates circadian rhythm and may improve pigmentation. It can be used topically or orally, although the latter has poor bioavailability and should therefore be used in high doses and at night.

Finally, AGEs can induce melanogenesis and lead to increased oxidative stress. To reduce AGE production, it is important to avoid fried foods, refined carbohydrates and red meat and to opt for vegetables, fruit and cooking methods such as steaming.

Polypodium leucotomos is highly anti-inflammatory and is used in patients with both melasma and vitiligo.

The gut microbiota also plays an important role, with multiple studies analysing the microbiota of patients with and without melasma. *Collinsella spp*. were found to be abundant in patients with melasma and they are thought to play an important role in impairing oestrogen metabolism, although further studies are needed.

Ultimately, a holistic approach that focuses on healthy diet, exercise, adequate sleep and stress management is most effective. Supplements can play a complementary role, but should not replace lifestyle changes.

Therapeutic pearls for melasma

Speaker: Dr Ana Claudia Esposito

The treatment of melasma is based on four pillars: **photoprotection**, **systemic treatment**, **procedures** and **topical treatment**. Although the standard combination is sunscreen plus triple formula, not all patients tolerate the latter due to possible adverse effects, such as ochronosis. Therefore, new evidence-based molecules and treatments have been explored.

Topical metformin:
30% metformin reduces the transcription of melanogenic proteins, such as tyrosinase. In studies, it has been shown to be as effective as the triple formula after eight weeks of use, with good tolerance and promising results.

Melasyl
Melasyl is a melanogenesis inhibitor that acts on precursors such as DOPA, DHICA and DHI, but does not inhibit tyrosinase. MelaB3 combines Melasyl with 10% niacinamide. In studies, its efficacy is comparable to 4% hydroquinone after 80 days, with the advantage of being a cosmetic rather than a medicinal product.

Thiamidol:
A resorcinol derivative, it is a human tyrosinase inhibitor with no cytotoxic effects. When applied 4 times a day, it is as effective as 4% hydroquinone. A new formulation combines thiamidol with (0.1%) retinoic acid and (0.1%) dexamethasone acetate, showing similar results to the traditional triple formulation.

Methimazole:
This antithyroid agent inhibits peroxidase and tyrosinase, with no systemic effects. In studies, 5% methimazole was more effective than 2% hydroquinone, but less effective than 4% hydroquinone.

New products in Brazil:

A combination of hexapeptides, lactoferrin, phosphatidylserine and tranexamic acid showed marked improvement after 12 weeks in comparative studies with 4% hydroquinone.

In conclusion, with an increasing range of options, it is essential to select treatment based on evidence in order to prescribe effective and safe options.

Special photoprotection in pigmentation disorders

Speaker: Dr Maria Ivonne Arellano Mendoza.

To start her presentation, the doctor reminded us of the concept of the exposome, all those factors to which an individual is exposed and which determine their state of health or disease, such as pollution, tobacco, temperature, nutrition, stress, quality of sleep and solar radiation.

There are multiple molecular mechanisms of photodamage. Some of them include the generation of free radicals (ROS and RNS), generation of harmful metabolites involved in immunosuppression through their effects on Langerhans cells and mast cells (trans-UCA photoisomerisation and photodecomposition), inflammation mediated by nitric oxide and prostaglandins, and both nuclear and mitochondrial DNA disturbances.

Of these, inflammation, abnormal mast cell degranulation and melanogenesis disturbances are the main factors involved in melasma.

She also mentioned opsins, melanocyte membrane proteins, which are sensitive to blue light and capable of inducing melanogenesis.

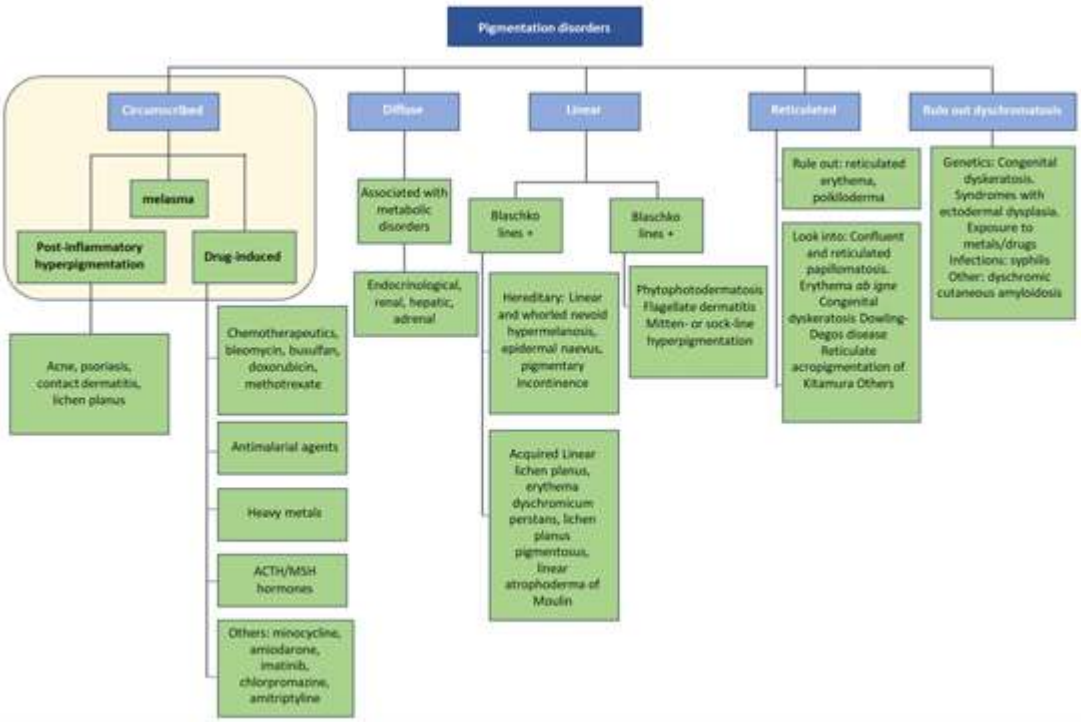
In order to prevent the onset and recurrence of melasma and other pigmentation disorders, she recommended the use of a broad-spectrum photoprotector with dyes such as iron oxide and that contains antioxidants. Some marketed formulations have different active substances (depigmenting agents or photolyase) that increase their effectiveness.

She reminded us of the main ingredients of topical sunscreens:

- Inorganic ingredients (titanium dioxide, zinc oxide, iron oxide): reflect or scatter UVR and visible light, form inert particle layer, are photostable, have no risk of sensitisation and do not react with organic protectants.

- Organic ingredients (Mexoryl, cinnamates, Tinosorb): divided into those that primarily absorb UVA, UVB and/or both, require chemical stability and a suitable vehicle.

She emphasised that there are multiple pigmentation disorders and summarised them in the following algorithm, bearing in mind that each disorder has its own indication for photoprotection and that the photoprotector must be adapted to each patient in order to achieve the best possible adherence.



Update: lasers in pigmentation disorders

Speaker: Dr Katherine Perez

There are several challenges in melasma treatment in Latin America due to its complex pathophysiology, which involves overactive melanocytes, keratinocytes, fibroblasts, mast cells, endothelial cells and sebocytes, all contributing to inflammation and pigmentation.

She recommended an accurate diagnosis prior to treatment.

Accurate diagnosis prior to treatment to decide on treatment equipment:

- Dermatoscopic assessment: fundamental to differentiate the type of melasma and to determine pigmentary and vascular proportions
- Cutaneous assessment: Analyse areas prone to hyperpigmentation (hands, underarms) to anticipate adverse reactions to treatment.

***As lasers for melasma with a vascular component*, she recommended the 532 laser, as it captures both the vascular and pigmentary components.**

- It is particularly effective for melasma with a high vascular component and phototypes III–IV.
    - Studies were conducted in Peru in 20 patients, showing significant reduction of the vascular component and visible improvement in melasma.

    - In cases refractory to other treatments (such as the Q-switched laser), the 532 nm laser achieved remarkable results by specifically targeting the vascular component.

She suggested a melasma protocol in which lasers are a therapeutic tool that should be accompanied by other measures:

- First session: 532 sub pulsed laser 1 session/Nd:YAG long pulse/dye/IPL laser
- Second session: 21 to 28 days after Q-switched laser (4 sessions every 21 days)
- Probiotics
- Topical home treatment day and night
- Sunscreen with UVA/UVB/HEVL
- Optional and on a case-by-case basis: Nutraceuticals and tranexamic acid

For *melasma with a high pigmentary component*, Q-switched laser/Pico laser (4 sessions at 21-day intervals) is preferable.

She also recommended some topical products as a complement to laser treatment, and stressed that she generally does not like to use hydroquinone or corticosteroids. She thus recommended:

- 12% mandelic acid
- 5% vitamin C
- 4% arbutin
- 5% Melanostatine-5
- 5% niacinamide
- 3% magnesium sulphate
- 3% vitamin E
- 0.1% retinal
- 0.5% cysteamine

She continued her presentation by recommending different lasers for different pigmentation disorders, saying they should always be accompanied by home treatment and photoprotection:

- *Solar lentigines* with 532 nm laser

- *PIH* due to acne or other pathologies: Q-switched/Pico laser every 21 days
- *Exogenous pigmentation:* Q-switched/Pico laser/shock waves
- *Hypopigmented lesions in melasma:* SHE DOES NOT RECOMMEND CONTINUING TO USE LASER PLATFORMS Thermo-mechanical ablation (Tixel 2), weekly amino acid and hyaluronic acid injections (Sunekos performa)
- *Naevus of Ota:* She suggested using Pico laser until pinpoint bleeding

In conclusion: successful melasma treatment depends on an accurate diagnosis, proper selection of tools such as lasers and an individualised approach to avoid adverse effects. The reduction of the vascular component is key in melasma with these characteristics, achieving satisfactory and safe aesthetic patient results.

Plenary session: the first Latin American consensus on photoprotection

Speakers: Dr Jose Luis Lopez Estebaranz and Dr Omar Lupi Da Rosa Santos

The first scientific document on photoprotection written by Latin American dermatologists addressing the Latin American population with its specificities was presented. The aim was to share it with dermatologists, doctors from other specialities, other healthcare professionals, and governmental and educational organisations.

A total of 27 dermatologists from 13 countries (9 authors and 18 co-authors) contributed to the consensus.

The modified DELPHI methodology was used. Proposals with less than 80% agreement were rewritten and a new round of questionnaires was carried out until all obtained agreement of 80% or more from experts.

Main messages:

- The particularities of Latin America (LA) must be taken into account when interpreting international publications and recommendations. The majority of the Latin American population is exposed to high doses of solar radiation on a daily basis. A very significant and populated part of Latin America lives in the tropical and subtropical region of the planet. Therefore, latitude and orographic factors (meteorological phenomena related to the topography of a region) that can increase UVR levels must be taken into account.
- In Latin America, under-reporting of skin cancer cases is a significant problem. Many countries lack comprehensive data collection systems, making it difficult to accurately assess the incidence of the disease.

- Sunscreens should be classified as cosmetic products to improve their accessibility and distribution. New organic filters have been developed that are also safe for vulnerable populations, such as pregnant women and children.

- There is a lack of consensus on approved sunscreens in the region. Some filters authorised in Brazil may not be recognised in Mexico or other countries, leading to confusion and inconsistencies in product safety and effectiveness.

- Sun protection awareness from an early age and national sun protection campaigns are important.

- Ban on tanning beds

- They recommended requiring sunscreens with a minimum UVAPF/SPF ratio of 1:3 and encouraging the development of sunscreens with high UVA protection. They also recognised the importance of the effects of visible light on the skin, and suggested that further research should be encouraged to provide UV-Vis filters, ideally without the addition of pigments.

- They also emphasised that photoprotection is the combination of photoprotective measures; no single measure alone is sufficiently effective. The use of mechanical photoprotective measures should thus be encouraged, especially in the most susceptible populations such as children and outdoor workers.

- Unprotected sun exposure should not be considered a source of vitamin D production.

- For pregnant and postpartum women, they recommended not using products containing benzophenone-3 (BP-3; oxybenzone).

- As is already known, applying protection 15 minutes before sun exposure and applying it every 2 hours are recommended, taking into account the choice of vehicle and appropriate products in the event of aquatic activities.

- 0 to 6 months: no sun exposure, use of mechanical measures only

- over 6 months: SPF greater than 50, the use of aerosols is discouraged, cream or stick products containing mostly non-particulate inorganic filters or modern particulate organic filters are preferable

- Make special photoprotection recommendations for different pathologies such as: melanoma and non-melanoma skin cancer, photoageing, pigmentation disorders, lupus erythematosus, acne, rosacea, atopic dermatitis, psoriasis and vitiligo.

Symposium: old medicinal products, new uses

Coordinators: Dr Manuel Del Solar, Dr Sofía López Cordero, Dr Elda Giansante.

Speakers: Dr Ricardo Perez Alfonzo, Dr Juan Carlos Diez De Medina Duran, Dr Sofía López Cordero, Dr Enrique Uraga Pazmiño, Dr Emilia Noemi Cohen Sabban

Colchicine

Speaker: Dr Enrique Uraga Pazmiño

Colchicine is an anti-inflammatory and antimitotic medicinal product that has been used for decades to treat various diseases, such as gout, familial Mediterranean fever and pericarditis. In recent years, its use has expanded to skin diseases and other conditions such as psoriasis and some types of vasculitis.

In terms of absorption, it is administered orally and has a bioavailability of 45%, reaching its peak concentration 2–4 hours after ingestion. Its anti-inflammatory effect is most evident 24–48 hours after administration.

Its mechanism of action has been shown to inhibit microtubule polymerisation by binding to tubulin, so colchicine is effective as an antimitotic. It also disrupts neutrophil L-selectin expression and E-selectin distribution, resulting in an anti-inflammatory effect. It is also antifibrotic and immunosuppressive.

Although the list of dermatological conditions for which colchicine is indicated is extensive, only three have level 1 evidence: *palmoplantar pustulosis, recurrent aphthous ulcers and actinic keratoses*, the latter in topical form.

It is usually administered at doses of 0.5 to 2 mg, the optimal dose being 1 mg per day in most cases. It is available in topical form (creams and ointments) and, in more severe cases, can be administered intravenously, although the latter option carries higher risks of systemic toxicity.

It has drug-drug interactions with a number of medicinal products, including antibiotics (clarithromycin and erythromycin), antifungals, immunosuppressants and statins, which may increase its concentration and cause serious adverse effects. Moreover, its use should be avoided in renal and/or hepatic dysfunction.

Common side effects include diarrhoea, nausea and vomiting. In rare cases, it may cause liver toxicity or alopecia. Cases of colchicine overdose can cause severe symptoms, including multi-organ failure and death.

Contraindications: - hypersensitivity
- pregnancy
- renal or hepatic failure

- gastrointestinal disorders
- cardiac disorders
- haematological disorders such as blood dyscrasias
- 14 days post use of cytochrome P450 inhibitors and/or P-glycoprotein

The following are case reports in which colchicine was indicated as a treatment with favourable results: generalised granuloma annulare, facial granuloma annulare, generalised pustular psoriasis in combination with biologic therapy, chronic spontaneous urticaria refractory to other treatments, erythema nodosum, lichen planus pigmentosus, AGEP and acne fulminans. In summary, colchicine is an effective medicinal product for various inflammatory conditions, but its use must be carefully monitored due to the risks of side effects and toxicity.

Antimalarial agents

Speaker: Dr Ricardo Perez Alfonzo.

Antimalarial agents (chloroquine, hydroxychloroquine and quinacrine) have immunomodulatory, anti-inflammatory, antiproliferative, photoprotective, antithrombotic, lipid-lowering and hypoglycaemic effects, without causing significant immunosuppression.

Indications: treatment and prophylaxis of malaria and several autoimmune diseases

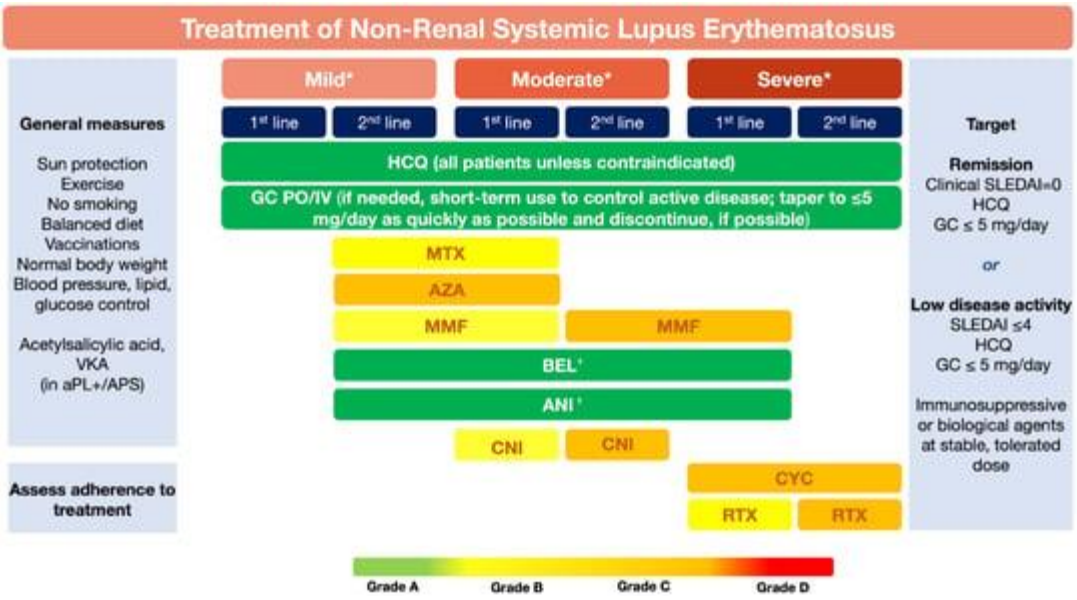
Antimalarial agents may be indicated for many dermatological pathologies: porphyria cutanea tarda, dermatomyositis, sarcoidosis, generalised granuloma annulare, foreign body granuloma and even rosacea.

Hydroxychloroquine has a delayed therapeutic effect, possibly requiring a month to show results. It accumulates in melanin-containing tissues, such as the skin and retina, and is excreted in the urine. Although it crosses the placenta and is excreted in milk, its teratogenic risk is low.

It is effective on specific CCLE, ACLE, SCLE and LET lesions; improves systemic manifestations of SLE; and acts on non-specific lesions (oral ulcers, photosensitivity and calcinosis).

He explained that there is a latency period for the onset of action so he specified that he starts systemic corticosteroids and antimalarial agents, and then after one month discontinues corticosteroids, progressively reducing them.

He strongly suggested following the indications in the table below.



He highlighted some points:

- Hydroxychloroquine is the cornerstone of SLE treatment. He stressed that there is a relative risk of activity or increased severity of up to 2.5 times higher when discontinuing it, so if there is no contraindication, it should not be discontinued.

- The early use of hydroxychloroquine in CLE prevents the development of autoantibodies and SLE.

- In severe cases of antimalarial resistance with the need to start thalidomide, do not discontinue antimalarial agents as they have an antithrombotic effect vs thalidomide which is prothrombotic.

The dose should be titrated according to the patient's weight and liver or kidney function. Administration requires regular ophthalmological monitoring as, although ocular effects are rare, they may include irreversible retinopathy if the medicinal product is used for more than 5 years or at high doses. Recommend that patients wear dark glasses and stop smoking.

It is also important to request G6PD testing prior to administration to avoid haematological toxicity. Other common adverse effects include nausea, vomiting, diarrhoea and skin pigmentation, although these are usually reversible. It is important not to stop treatment without medical supervision, as stopping treatment increases the risk of disease recurrence.

Contraindications include retinopathy, renal or hepatic failure, glucose-6-phosphate dehydrogenase deficiency and some psychiatric diseases. Although it crosses the placental barrier, its use in pregnancy is not contraindicated, as it has not been associated with congenital malformations.

Doxycycline

Speaker: Dr Emilia Noemi Cohen Sabban

Doxycycline is a semi-synthetic antibiotic derived from adritetracyclines. It is broad-spectrum, and is effective against gram-positive, gram-negative and intracellular bacteria such as *Chlamydia* and *Mycoplasma*. It is currently used in the treatment of community-acquired methicillin-resistant *Staphylococcus aureus* (CA-MRSA) infections.

Pharmacological characteristics

- Absorption: good oral bioavailability, affected by food (1–20%) and metal ions in dairy or supplements (up to 50%)
- Distribution: lipophilic, crosses the blood-brain barrier and binds to plasma proteins (90%)
- Excretion: mainly hepatic, suitable for patients with renal failure
- Usual dose: 100 mg/day

Mechanisms of action and resistance

1. Bacteriostatic action: It inhibits bacterial protein synthesis by binding to the ribosomal subunit, preventing mRNA translation.
2. Anti-inflammatory action: bacteriostatic-independent. It inhibits neutrophil chemotaxis, reduces metalloproteinase activity, down-regulates proinflammatory cytokines of innate immunity and eliminates reactive oxygen species.
3. Bacterial resistance:
    - Genes that protect the ribosome
    - Jumping genes or plasmid-mediated resistance genes that are transmitted between strains of the same species
    - Sub-antimicrobial dose (less than 40 mg per day); it is not known whether it generates resistance or not

Clinical indications

1. Acne:
    - Onset of action at three weeks; maximum recommended duration 3–4 months
    - Monotherapy contraindicated; use in combination with retinoids, benzoyl peroxide or fixed combinations, but not with topical antibiotics

    - Sub-antimicrobial doses are not recommended in acne; there is no evidence of their effectiveness

2. Rosacea:
    - It is effective in low doses (40 mg/day) for inflammatory forms
    - Modified-release formulations reduce adverse effects
3. Sexually transmitted diseases (STDs):
    - Useful in *Chlamydia trachomatis* and *Mycoplasma genitalium* infections
    - Alternative in syphilis for those allergic to penicillin
    - Emergent use in post-exposure prophylaxis (within 72 hours); she suggested that this use may lead to increased cases of resistance
4. Other indications:
    - Early and localised Lyme disease
    - Mild bullous diseases (specific cases)
    - Atypical mycobacterial infections in combination with other antibiotics (*Mycobacterium marinum* and *fortuitum*)

Adverse effects

- Common: gastrointestinal (nausea, vomiting, abdominal pain, oesophagitis) and photosensitivity
- Rare: benign intracranial hypertension, hepatotoxicity, vestibular effects and skin hypersensitivity reactions

Absolute contraindications: use in children <8 years, pregnancy/lactation

Conclusion: Doxycycline is a versatile medicinal product with broad indications in dermatology, most notably in the treatment of acne, rosacea and some STDs. However, its use must be rational to minimise bacterial resistance and adverse effects.

N-acetyl-cysteine

Speaker: Dr Juan Carlos Diez de Medina

N-acetyl cysteine (NAC) is considered to be one of the best antioxidant medicinal products, has been used since 1960 and was approved by the FDA as an expectorant. Despite prolonged use, there are no significant reports of poisoning, and side effects are minimal. The drug, which acts as a precursor of L-cysteine and promotes glutathione production, has a positive impact on the central nervous system, especially on dopamine regulation. This makes it useful in anxiety, depression, schizophrenia and bipolar disorders.

In dermatology, NAC is primarily used as an adjuvant in the treatment of various skin pathologies, including trichotillomania, psychogenic excoriations and acne. Although studies are limited, anecdotal evidence suggests that NAC has positive effects, especially in conditions associated with anxiety. Treatment is generally administered in 600 mg doses every 12 hours in adults, and 300–600 mg in children, depending on age (it can be used from the age of 2).

He presented cases in which significant improvements were observed in patients with skin lesions induced by compulsive behaviour. For example, one patient with psychogenic excoriations experienced a marked reduction in anxiety symptoms and lesions after 45 days of treatment. Other cases of dermal lesions in anxious patients also considerably improved with the use of NAC.

Although clinical studies are still insufficient, NAC appears to be a safe and effective therapeutic option in the treatment of dermatological disorders related to anxiety and compulsive behaviours in both adults and children. Further research into its use is recommended, but thus far its safety profile is remarkably favourable.

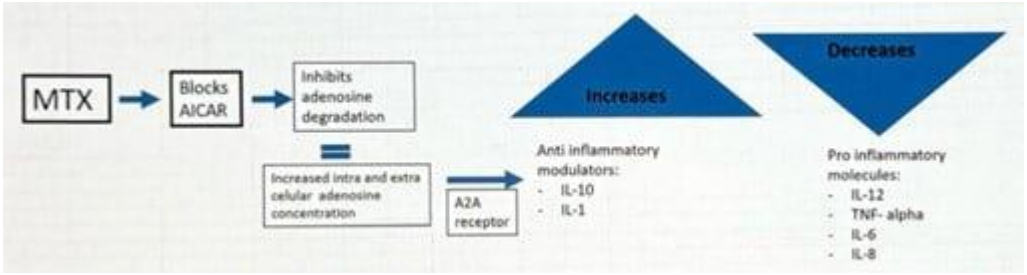
Conclusion: NAC is a safe and promising medicinal product in dermatology, with positive results in the treatment of various anxiety-related conditions, although more studies are needed to confirm its efficacy on a large scale.

Methotrexate. An old ally.

Speaker: Dr Sofía Cordero

This lecture focused on the use of low-dose methotrexate as a therapeutic alternative in autoimmune and inflammatory diseases, highlighting its applicability in a context where patients do not always have access to modern biologic treatments.

Mechanism of action and properties: Low-dose methotrexate acts as an immunomodulator, inhibiting adenosine degradation and blocking certain enzymes. This increases anti-inflammatory mediators, such as interleukin-10, and decreases pro-inflammatory ones, such as TNF-alpha.

- 

1. Main indications:
    - **Rheumatoid arthritis**: The strongest evidence supports its use in this pathology.
    - **Other indications**: Although it does not compete with modern biologics, methotrexate is still used in diseases where patients do not have access to such treatments, such as atopic dermatitis, chronic urticaria, psoriasis, systemic sclerosis, alopecia areata, etc.
2. Other indications:
    - **Chronic urticaria**: In a case series in patients with antihistamine-resistant urticaria, low-dose methotrexate (15 mg/week) showed a positive response in 87% of patients after 4.5 months of treatment.
    - **Atopic dermatitis**: According to another case series publication, in moderate-to-severe non-responders to topical steroids, a positive response was found in 53–90% of patients at 4–12 weeks with low-dose methotrexate. Patience is crucial, as the full effect can take up to 24 weeks.
    - **Bullous diseases:** Methotrexate is used as an adjuvant treatment to steroids to reduce steroid doses and side effects, with good results in most cases.
    - **Systemic sclerosis**: In early disease, methotrexate improves skin fibrosis, but should be used with caution due to possible hepatic and renal adverse effects.
    - **Alopecia areata**: Although evidence is limited, methotrexate is used with steroid combinations, with satisfactory responses in some patients, although evidence is scarce.
    - **Mycosis fungoides:** Higher doses of MTX are needed, starting at 25 mg, with it being more effective in early stages.
    - **Keratoacanthomas**: When surgical treatment is not possible, it can be used intralesionally.
3. **Safety and adverse effects**: The most common side effects include elevated transaminases, nausea and fatigue. Regular patient monitoring is essential to avoid

toxicity, especially in patients with co-morbidities or on prolonged treatment. Folic acid supplementation (5 mg weekly) may reduce adverse effects without compromising effectiveness.

4. Important considerations:

    - **Drug-drug interactions**: Pay special attention to interaction with NSAIDs, which may increase the toxicity of methotrexate. Patients must be informed of possible interactions with other commonly used medicinal products.

    - **Monitoring**: Baseline studies and close patient monitoring are necessary to titrate doses and prevent complications.

5. **Conclusion**: Low-dose methotrexate continues to be a valuable treatment, especially in countries with limited resources. Despite little recent evidence, its low cost, accessibility and efficacy in various pathologies make it an important option in the treatment of chronic inflammatory diseases. Additional research and case reports to further the knowledge on its use are recommended.