EADV CONGRESS
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Abstract N°: 69

An attempt to explore alternative options for bindi and kumkum in patients allergic to bindi and kumkum.

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Introduction & Objectives:

Kumkum and bindi are applied over forehead as custom in most parts of South Asia and also as a cosmetic in many parts of the world. Kumkum and bindi are part of tradition amongst Hindus which at times is unavoidable and not wearing them is unacceptable in few communities. Development of allergic reactions to the components of kumkum and the allergens present in the adhesive of bindi stickers is commonly observed amongst many. These reactions are often severe and distressing causing visible eczema over the face. It is unlikely to subside unless the exposure to allergen is completely discontinued which is difficult for females due to social and religious obligations in few communities. Studies have been conducted to identify the possible allergens in the kumkum and bindi causing reactions but as per our knowledge none of them have attempted to provide an effective alternative. This study was conducted with the objective of evaluating and comparing the safety and efficacy of indigenously prepared kumkum and bindi stickers and annatto seed powder when used as alternatives in patients with bindi and kumkum dermatitis.

Materials & Methods:

A comparative study was conducted on patients of more than 18 years of age of both sexes with kumkum and bindi dermatitis. Sample size was calculated based on the prevalence. 15 patients in each group were allotted based on simple random sampling after the patch test with products in each group. Group I patients were given kumkum prepared by boiled and dried turmeric powder mixed with sodium bicarbonate and fresh lime juice to obtain scarlet red mixture. Group II patients were given bindi prepared by red colored craft paper cut into circular disc with adhesive paste. Group III patients were given annatto seed powder. All the patients were advised to use the products as bindi and kumkum. Follow up was done at 2 weeks and 4 weeks to assess the development of reaction and patients satisfaction.

Results:

Among 45 patients 42 did not develop any reaction to the given compounds. One patient in group III and two patin group I developed mild reaction. Development of reaction to the given compounds between the groups was statistically insignificant (p=0.189). The difference between all 3 groups in terms of patients satisfaction was statistically insignificant (p=0.318).

Conclusion:

The alternatives were cosmetically acceptable and did not cause any reaction in majority of the patients. All the alternatives were safe, promising and cost effective to be given as alternatives in patients with bindi and kumkum dermatitis.

EA DV CONGRESS
AMSTERDAM 25-28 SEPTEMBER 2024
EUROPEAN ACADEMY OF DERMATOLOGY & VENEREOLOGY

Abstract N°: 896

Contact Dermatitis from Phenylethyl Resorcinol: A hidden ingredient in sunscreens

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Introduction & Objectives:

There have been isolated reports of allergic contact dermatitis (ACD)to skin-lightening agents. Use of these substances in cosmetics may be increasing and we highlight the potential exposure in sunscreens as well as agents promoted to treat hyperpigmentation. We report a case of facial ACD from phenylethyl resorcinol (PER) in a sunscreen confirmed by patch tests and review other skin-lightening agents reported to cause ACD.

Materials & Methods:

Results:

A 35-year-old female presented with peri-oral and periocular dermatitis. She had no previous history of eczema, and had regularly used a sunscreen (*Anthelios Age Correct SPF50)* for 12 months without problems before the onset of the rash. There was secondary spread to her scalp and neck. Patch tests were carried out with British Standard Series, cosmetic series (face/fragrances), nail acrylates and her sunscreen. She had clear allergic reactions to her sunscreen on day 2(+) and day 4(+) and with other positives to limonene and benzophenone 4 which were not listed as ingredients. She subsequently had ingredient testing to the sunscreen (ingredients provided by manufacturer) which showed positive reactions to PER 0.5% and day 2(+) and day 4(++). The vehicle for PER was 50% alcohol and 50% water. Her dermatitis improved with allergen avoidance and topical pimecrolimus.

Conclusion:

PER is a tyrosinase inhibitor, inhibiting melanin synthesis significantly more potently than alternatives including kojic acid. It has been used in cosmetics and hair-lightening products but as our report highlights has now been incorporated into sunscreens. Only a handful cases of ACD to PER have been noted1,2. These described similar presentations of facial and peri-oral dermatitis attributed to sunscreen, with patch test positivity to PER and sunscreen ‘as is’. Although the EU imposes limits in PER concentrations in hair dye (1.25%) and hair lotions/shampoos (0.5%), the concentration in skin cosmetics range from 0.5%-3%. The previous reports tested concentrations from 0.1%- 2% PER in petroleum.

Other popular skin-lightening agents permitted for use in cosmetics and toiletries include kojic acid, arbutin, vitamin C. These have all been reported to cause isolated cases of ACD. Similarly, ACD has been reported from hydroquinone, which should be restricted to prescription-only items. As skin-lightening cosmetics gain popularity, their incidence of ACD may rise. Our case emphasises the need for cosmetovigilance and the benefit from cooperation with manufacturers in identifying emerging allergens. Consumers may be unaware that their sunscreen contains a skin-lightening agents and we raise awareness of this issue to colleagues.

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EADV CONGRESS
AMSTERDAM 25-28 SEPTEMBER 2024
EUROPEAN ACADEMY OF DERMATOLOGY & VENEREOLOGY

Abstract N°: 976

Metal series patch testing for orthopedic devices: a 13-year retrospective review

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Introduction & Objectives:

There is increasing utilization of prosthetic orthopedic implantations. These implantations include joint replacements for the knees, hips, and shoulders. Post-operative pain or rashes may raise concerns for an underlying allergic process, especially if these complications are associated with prosthetic joint failure. There is evidence that allergic contact dermatitis (ACD) is a possible complication for implanted devices, but there is conflicting data regarding the efficacy of patch testing for detecting an allergic reaction below the skin surface. Prior studies seem to suggest that pre-operative patch testing can be helpful in guiding device choice in patients with a history of metal allergy, but the role of patch testing in the post-implantation setting is unclear. This study investigated metals patch testing surrounding orthopedic device implantation, and whether pre- or postoperative testing results impacted orthopedic device management.

Materials & Methods:

An IRB-exempt retrospective review was conducted from 2009 – 2022 of adult patients at a large academic center who underwent metals patch testing and had procedural codes for knee replacement, hip replacement, and shoulder replacement. The review identified 36 patients who met inclusion criteria.

Results:

Preoperative patch testing was performed for 23 patients who underwent knee replacement (15), hip replacement (7), and shoulder replacement (1). Of these patients, 20 had a history of ACD; of the 3 without a history of ACD, 1 patient noted a history of oral lichen planus possibly related to his dental implants. For these preoperative patch testing patients, 15 of these patients had clinically relevant positives which impacted selection of joint implant in 13 of those cases. Relevant pre-operative patch test positives include cobalt chloride hexahydrate (4), copper sulfate pentahydrate (1), gold sodium thiosulfate (4), gold sodium thiosulfate dihydrate (3), nickel sulfate hexahydrate (8), palladium chloride (1), potassium dichromate (2), potassium dicyanoaurate (5), ticonium (1), chromium chloride (1), cobalt sulfate (2), manganese chloride (4), ferrous chloride (3), and zirconium chloride (1).

Postoperative patch testing was performed for 13 patients who underwent knee replacement (10) and hip replacement (3). Of these patients, 5 had a history of ACD. For these postoperative patch testing patients, 9 had negative testing while 4 patients had positive patch testing results of questionable clinical relevance. None of the 13 postoperative patients were recommended for implant removal on the basis of their patch testing.

Conclusion:

These results suggest that preoperative patch testing can guide orthopedic prosthetic device selection in patients with a history of metal contact allergies, while postoperative patch testing is more limited in utility.

EADV CONGRESS
AMSTERDAM 25-28 SEPTEMBER 2024
EUROPEAN ACADEMY OF DERMATOLOGY & VENEREOLOGY

Abstract N°: 1195

Flare-up phenomenon triggered by patch test due to topical ointment containing nitrofurazone and polyethylene glycol

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Introduction & Objectives: Nitrofurazone-containing ointments are topical agents that physicians frequently prescribe to treat skin-related diseases. However, the active ingredient nitrofurazone and the vehicle polyethylene glycol (PEG) are significant contact sensitizers that can result in allergic contact dermatitis. Skin patch tests are crucial in diagnosing allergic contact dermatitis by identifying certain allergens. However, a "flare-up phenomenon" may occur whereby the skin becomes inflamed in locations where allergic contact dermatitis has previously occurred.

Materials & Methods: A 51-year-old male patient presented with itchy erythema, edema, and yellow crusts on the left cheek and erythematous patches with multiple tiny pustules on the left neck to the back. About 10 days before these complaints, he had a soft tissue infection on his cheek and used a topical ointment containing nitrofurazone, PEG 300, PEG 1000, and PEG 4000.

Results: Laboratory tests were within normal limits, including total blood count with differentials, erythrocyte sedimentation rate and C-reactive protein level. Microbial cultures did not show pathogen microorganisms. Histopathological examination revealed predominantly perivascular and interstitial infiltration of lymphocytes and eosinophils in the upper and mid dermis. The patient was diagnosed with allergic contact dermatitis due to nitrofurazone-containing ointment. He was put on systemic prednisolone at a dose of 0.8 mg/kg/day along with topical 0.05% clobetasol propionate cream and all lesions completely regressed within days. One month after ceasing treatment, the patient underwent a patch testing with TRUE test and the topical commercial ointment containing nitrofurazone and PEG. TRUE test was negative when the patient was evaluated at 48th and 72th hours. On the other hand, nitrofurazone-containing ointment (commercial product, applied directly) produced a strong positive reaction, 25% ointment (mixed with white petrolatum) produced a weak positive reaction, and petrolatum (control area) produced no reaction. Additionally, a flare-up reaction on the neck, nape, and shoulders was observed. Within a few days, this response subsided with topical corticosteroids and systemic antihistamine treatment.

Conclusion: Nitrofurazone and PEG may induce allergic contact dermatitis and patch testing including these agents may cause flare up phenomenon in skin areas where dermatitis previously existed.

EADV CONGRESS
AMSTERDAM 25-28 SEPTEMBER 2024
EUROPEAN ACADEMY OF DERMATOLOGY & VENEREOLOGY

Abstract N°: 2349

Dermatoses of the amputation stump in prosthesis wearers: a series of 11 cases

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Introduction & Objectives: Dermatological lesions of the amputation stump can occur immediately after surgery, or several years later. The aim of this study is to report the epidemiological and clinical profile of patients who consult for dermatosis of the amputation stump.

Materials & Methods: A descriptive study that was conducted from September 2022 to April 2023. The study included patients with dermatosis at the amputation stump seen in a (the appropriate) consultation.

Results: Our series includes 11 cases of patients presenting with amputation stump dermatosis.. All patients wear lower limb prostheses. The average age was 40 years (range: 32 to 54 years). The male sex was exclusive. The average time for the appearance of dermatosis after placement of the prosthesis was 3.9 years (range: 1 year to 7 years). The right lower limb was involved in 7 patients (63.63%) and the left lower limb in 5 patients (36.36%). Irritant dermatitis (2 cases), xerosis of the skin of the stump (02 cases) and callosity (3 cases) were the main lesions found. The other dermatoses were represented by eczema, lichenification, bacterial infection and lymphedema of the stump with one case for each.

Discussion : Dermatoses of the stump are common among amputees. These dermatoses affect the quality of life of amputees because of their physical and emotional impacts. They can reduce the use of prostheses. Different factors can make the stump exposed to dermatological problems. We cite: poorly adjusted prosthesis; Materials used to make the prosthesis; The close contact of the latter with the skin of the stump; trapping of perspiration between the skin and the prosthesis and possibly the triggering of a dermatosis by a Koebner effect. In our series, half of the dermatoses are partly linked to poor skin care. In fact, patients used fatty products or alcohol as a moisturizing agent or to clean the stump. We recommended moisturizing dry skin using an emollient. Corns and calluses found in 3/11 patients are due to mechanical conflict with the prosthesis. They were treated with keratolytics based on salicylated acid or urea. An opinion for adjustment of the prosthesis was requested in 2 patients. The bacterial infection reported in a patient was favored by maceration, it requires early treatment with a local and systemic antimicrobial agent, as well as a preventive measure through regular hygiene of the stump (washing the stump, drying, applying an emollient).

Conclusion: The skin of the amputation stump is not adapted to the mechanical pressures and constraints of the humid environment. A good clinical assessment is essential in order to act on the factors which contribute to or aggravate these dermatoses.

EADV CONGRESS
AMSTERDAM 25-28 SEPTEMBER 2024
EUROPEAN ACADEMY OF DERMATOLOGY & VENEREOLOGY

Abstract N°: 2762

Sofa Dermatitis: A case of allergic contact dermatitis to octylisothiazolinone, potassium dichromate and Shellac

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Introduction & Objectives:

Sofa dermatitis has been well-documented to numerous components used in sofa manufacturing, particularly following the 2008 outbreak of reactions to the antimould/antifungal agent Dimethyl fumarate. Octylisothiazolinone (OIT) is a biocide also used in the manufacture of sofas and there are six case reports in recent years of allergic contact dermatitis (ACD) to OIT in leather sofas. ACD to real leather sofas has been also reported to products used in the tanning of leather.

Materials & Methods:

We report a case of sofa dermatitis in a 56-year-old female cleaner who presented with a 3-year history of itchy recurrent eczematous eruptions to the right elbow, posterior legs and ankles. This predominantly occurred in the spring and summer months during warmer weather. She had no history of atopy. On further questioning, the onset of the rash coincided with the purchase of a new leather sofa. She leant on the sofa armrest using her right elbow. She tended to wear short sleeved clothing and shorts during the warmer months, which allowed direct contact with the new sofa. ACD to her leather sofa was suspected. Patch testing was performed.

She was patch tested to the British Society of Cutaneous Allergy (BSCA) Baseline Series and additional series according to the patient's history. Readings were performed at day 2 and day 4.

Results:

Patch testing was positive to OIT 0.1% in petrolatum (+++), potassium dichromate 0.5% in petrolatum (+), and shellac 20% in alcohol (+). Patient-led patch testing with photographs sent for remote review confirmed a reaction to the sofa fabric. No treatments were applied to preserve or clean the sofa by the patient. The rash improved following the use of mometasone ointment once daily to affected areas, emollients daily, and avoidance of direct contact with the sofa, including covering the sofa with several layers of blankets.

Conclusion:

OIT is used as a leather sofa preservative and potassium dichromate is used as a leather tanning agent. Shellac is found in leather and furniture polish. This is the first case report known at the time of writing of a case of ACD to both OIT and potassium dichromate in a case presenting as sofa dermatitis. The diagnosis was less clear in the first instance as the sofa was purchased in the spring. Interestingly, Shellac is also found in polish which is often used to treat leather sofas and the patient had a significant history of exposure whilst working as a cleaner. Cases of sofa dermatitis can be multifactorial, and this case highlights the benefit of patch testing. This case alerts us to consider OIT, potassium dichromate and Shellac as potential allergens in cases of sofa dermatitis.

EA DV CONGRESS
AMSTERDAM 25-28 SEPTEMBER 2024
EUROPEAN ACADEMY OF DERMATOLOGY & VENEREOLOGY

Abstract N°: 2911

Occupational allergic contact dermatitis to acrylates in a young prosthetic dentistry professional

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Introduction & Objectives:

Occupational contact dermatitis (OCD) is a prevalent concern among workers exposed to various allergens in their work environment. Professions such as prosthetic dentistry, involving frequent contact with acrylic materials, present a heightened risk of allergic contact dermatitis (ACD).

Materials & Methods:

We describe a typical case of OCD to acrylates in a dental prosthetist, manifesting as hand eczema and influencing future career choices one year into employment.

Results:

A 28-year-old woman, with personal history of hypothyroidism, employed in dental prosthetics, presented to our Dermatology Department with a two-weeks history of intensely pruritic erythematous scaly plaques on both hands with blister formation on the fingers. Initial temporary improvement occurred with daily application of 0.1% betamethasone cream, but symptoms worsened upon returning to work. She reported this as her first job, starting a year prior to symptom onset, with daily exposure to acrylates. Although she acknowledged the importance of protective equipment, such as gloves, she occasionally omitted their use due to difficulties in performing precise tasks during the manufacturing of dental prothesis.

ACD suspicion prompted epicutaneous patch testing (IQ UltimateTM Chemotechnique) with the Portuguese Contact Dermatitis Study Group Baseline Series and the Dental Screening Series. Positivity for various acrylate compounds was observed at 48 and 72 hours, ranging from + to +++: methyl methacrylate, triethylene glycol dimethacrylate, urethane dimethacrylate, ethylene glycol dimethacrylate, butanediol dimethacrylate, tetrahydrofurfuryl methacrylate, and dimethylaminoethyl methacrylate. Given the significance of this occupational dermatosis, a job change was advised, with recommendations to avoid environments with these agents.

Conclusion:

Acrylates and methacrylates are a large group of chemically reactive monomers that are polymerized into acrylic plastics, widely used in glues, coatings, and various plastic materials. ACD caused by acrylates can be occupational, mainly in dentistry workers during the manufacturing and implantation of dental prosthesis, and in nail technicians during the sculpturing and application of artificial nails. The clinical manifestations vary according to the location of the contact.

This case underscores the importance of recognizing and managing OCD in specialized fields like dental prosthet. Patch testing is crucial for identifying causative agents and guiding appropriate treatment strategies. Furthermore, implementing occupational safety measures, such as protective equipment and alternative materials, is essential for preventing such occurrences.

EADV CONGRESS
AMSTERDAM 25-28 SEPTEMBER 2024
EUROPEAN ACADEMY OF DERMATOLOGY & VENEREOLOGY

Abstract N°: 3451

Allergic contact cheilitis caused by metals in permanent dental retainers

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Introduction & Objectives:

Cheilitis, stomatitis, and orodynia are frequent complaints in Dermatology consultations with significant morbidity. Especially in cases of prolonged and refractory disease, contact allergy should be considered and investigated. The management of these patients is challenging, and patch testing is often a key to diagnosis.

Materials & Methods:

We present a case of allergic contact cheilitis to metals (cobalt and chromium) present in permanent dental retainers.

Results:

A 23-year-old woman, Fitzpatrick skin type III, with no personal history of atopy, was evaluated in our Dermatology Department for a three-year history of erythema, scaling, and itching of the lips. The patient reported using a fixed metal retainer in the upper and lower teeth, placed a few months before the onset of symptoms.

Considering the suspicion of allergic contact cheilitis, patch tests were performed with the Portuguese Contact Dermatitis Study Group Baseline Series, and the Pastry and the Dental Screening Series (Chemotechnique Diagnostics). Positivity was found for Cobalt Chloride (+) and Potassium Dichromate (+) in D2, with increasing intensity in D4. These metals were found to be present in the retainer, establishing the diagnosis of allergic contact cheilitis to metals with current relevance. Four months later the dental prosthesis was removed, resulting in resolution of the patient’s complaints.

Conclusion:

Allergic contact cheilitis has a variable clinical spectrum, and the causative allergens are numerous: metals, acrylates, food additives, plants, cosmetics, fragrances, preservatives, medications, among others. In patients using orthodontic appliances or dental prostheses, metals are the most frequently implicated allergens. In this clinical case, it was possible to attribute the complaints of cheilitis to contact allergy to metals present in the dental prosthesis, with resolution after its remotion, demonstrating the importance of contact allergology in the approach to these patients.

EA DV CONGRESS
AMSTERDAM 25-28 SEPTEMBER 2024
EUROPEAN ACADEMY OF DERMATOLOGY & VENEREOLOGY

Abstract N°: 3674

SJS /TEN-like presentation of Hydrogen cyanamide poisoning: A case series

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Introduction & Objectives: Hydrogen cyanamide (CH2N2) is a plant growth regulator designed to stimulate more uniform bud-break following dormancy, thereby enhancing crop yield which is often used in orchards, vineyards, and other agricultural settings is part of this hazardous group but there are few data on exposure events. Its exposure is primarily reported as unintentional in occupational settings .The most common routes of exposure are dermal and inhalation. Hydrogen cyanamide is known to cause severe irritation namely throat irritation, dyspnoea, vomiting, erythema and caustic burns of skin, mucous membranes and eyes .More severe skin reactions simulating Stevens–Johnson syndrome/ erythema multiforme have also been reported.

This paper aims to explore the association between hydrogen cyanamide exposure and dermatitis among agricultural workers .

Materials & Methods:

This study employs a retrospective observational design to document cases of hydrogen cyanamide (HC) exposure among agricultural workers who presented to emergency of a tertiary care centre between Nov 2023–April 2024 We evaluated 10 patients of hydrogen cyanamide (Dormex) exposures who presented with complaints of skin lesions of varying morphologies following exposure to hydrogen cyanmide,.For each case demographic details of the patient , onset/duration/distribution, morphology of lesions, associated symptoms (e.g., pruritus), and severity,was documented along with route of exposure (including direct skin contact during application, handling, or post-application activities), adherence to safety protocols, and use of personal protective equipment (PPE) was documented.

Results:

10 subjects were included in this case series. All cases (100 %) involved workers employed in orchards, vineyards, or other agricultural settings where HC is commonly used. Direct skin contact during HC application was the most common route of exposure reported in all cases. All cases presented with oedema, burning sensation followed by vesiculation at the site of exposure and on non-exposed sites as well. A latent period of 5-7 days was observed between contact with the chemical and development of skin lesions. The extent of body surface area involvement varied among the cases, ranging from localized lesions of HC contact, such as the hands, arms, face, and neck to more widespread lesions mimicking SJS-TEN.(< 10 %) . None of the cases showed mucosal involvement. All cases demonstrated improvement in dermatological symptoms following treatment, with systemic corticosteroid therapy. No severe complications or long-term sequelae were reported in any of the cases.

Conclusion: In this case series, we retrospectively investigated 10 cases linked to Dormex exposure in agricultural workers and observed that it can have wide variety of clinical presentations ranging to mild pruritis to severe SJS/TEN-like presentation depending on the route and extent of exposure. Moreover it can be elucidated that inadequate training, limited access to personal protective equipment (PPE) and substandard working conditions of agricultural workers in India further heighten their susceptibility to adverse health outcomes. In conclusion, the findings from this case series underscore the critical importance of implementing comprehensive surveillance and notification systems to monitor and mitigate the health risks associated with exposure to hydrogen cyanamide (Dormex) among agricultural workers.

EADV CONGRESS
AMSTERDAM 25-28 SEPTEMBER 2024
EUROPEAN ACADEMY OF DERMATOLOGY & VENEREOLOGY

Abstract N°: 3761

An unusual case of severe and treatment resistant contact dermatitis to red tattoo pigment ink successfully treated with Upadacitinib

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An unusual case of severe and treatment resistant contact dermatitis to red tattoo pigment ink successfully treated with Upadacitinib

In this presentation we discuss the case of a 53-year-old female referred to our clinic for the management of a contact dermatitis to the red pigment in a tattoo. The patient elected to have a long-standing tattoo on the lower leg recoloured after the initial pigment had faded over time. Following a second recolouring layer an intense pruritic, oedematous, and scaled eruption occurred confined to the red ink section of the tattoo.

Initial biopsies were performed and demonstrated a subacute spongiotic dermatitis. Other investigations were normal with the exception of a mildly elevated C-Reactive Protein. Treatments including high-potency topical steroids and intralesional steroids were initiated without significant improvement.

Following in inadequate response to therapy, a repeat biopsy was obtained which revealed a chronic spongiotic dermatitis containing red dermal tattoo pigment within a mixed inflammatory infiltrate. Deep tissue bacterial and fungal cultures were negative at both time points. Systemic treatments including prednisone and cyclosporin were also trialled without sustained improvement.

Given the significant physical and psychological impact, the decision was made to commence Upadacitinib off-label with compassionate access provided by the pharmaceutical company. The treatment was well tolerated and provided significant symptomatic improvement.

EADV CONGRESS
AMSTERDAM 25-28 SEPTEMBER 2024
EUROPEAN ACADEMY OF DERMATOLOGY & VENEREOLOGY

Abstract N°: 4057

Allergic contact dermatitis to sodium metabisulfite in a rotigotine transdermal therapeutic system

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Introduction & Objectives:

Transdermal therapeutic systems (TTS) are becoming a popular treatment option due to their advantages over oral drugs, including enhanced patient compliance and avoidance of first-pass metabolism and plasma concentration fluctuations. However, TTS may lead to adverse skin reactions, including both irritant and allergic contact dermatitis (ACD). Alergic sensitiziation may occur to any of the three components of the patches – the active drug, the adhesive, or the excipients.

Materials & Methods:

We present a case of ACD induced by the transdermal rotigotine patch in a patient with Parkinson's disease, with sodium metabisulfite identified as the implicated allergen.

Results:

A 69-year-old man, presented to our outpatient Dermatology Department with a three-week history of itchy erythematous scaly well-demarcated square plaques on both arms at the application sites of a rotigotine TTS TTS 2mg/24h, beginning one month after initiating said treatment for early signs of Parkinson's disease. He reported to change the application site every day, as recommended, and denied any recent introduction of other medications in the previous 6 months.

Considering the hypothesis of ACD, applications of TTS were stopped, and he was treated with betamethasone dipropionate cream 0.05% and bilastine 20mg bid, with complete clinical resolution.

Later, patch tests were carried out with the Portuguese Contact Dermatitis Study Group Baseline Series, sodium metabisulfite present as excipient in the TTS (2% pet.; Chemotechnique) and the rotigotine TTS as is. The tests where positive for sodium metabisulfite (1+ at day D2 and 2+ at D4] and rotigotine TTS (1+ at D2 and D4).

Conclusion:

Sulfites, ubiquitous sulfur-based compounds widely used in cosmetics, pharmaceuticals, and foods, are a common cause of ACD. In medical applications, sulfites are prevalent in topical medications like antifungals, steroids, local anesthetics, and ophthalmic solutions to maintain stability and potency.

While skin reactions to rotigotine TTS are generally transient and of mild to moderate severity, discontinuation is necessary in approximately 8% of patients. In this instance, we identified sodium metabisulfite as the allergen for ACD, underscoring the critical role of patch testing in diagnosing contact dermatitis associated with TTS. It emphasizes the necessity for clinicians be aware of potential allergens in transdermal patches, including excipients.

Further studies are warranted to explore alternative formulations for patients sensitized to common patch constituents.

EADV CONGRESS
AMSTERDAM 25-28 SEPTEMBER 2024
EUROPEAN ACADEMY OF DERMATOLOGY & VENEREOLOGY

Abstract N°: 4747

Systemic contact dermatitis due to acrylates

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Systemic contact dermatitis due to acrylates

Introduction & Objectives:

Systemic contact dermatitis is a condition in which a previously sensitized to a certain allergen patient subsequently reacts to the same allergen via a different route. Most commonly it occurs for allergens such as metals, medications or foods.

Materials & Methods:

We present the case of a 52 year old patient, who arrived at the hospital regarding multiple erythematous macules and plaques on the skin folds of the neck, armpits, knee- and inguinal folds. 8 months ago the patient was diagnosed with allergic contact dermatitis (ACD) to acrylates. At that time she was presented with erythemoinfiltrated and pruriginous plaques around the eyes. A patch test with the European baseline series was performed and revealed an allergy to HeMA and 4 other acrylates (MN-1000) via autotransfer of allergens from her acrylic nails to her eyes. Stopping the usage of nail acrylate polish resulted in complete remission of her skin changes.

Results:

According to the recent clinical picture we put the diagnosis of systemic contact dermatitis and started inquiry about the provoking mechanism. It turns out that a Vitamin C supplement the patient was taking daily had a shellac drug capsule. The patient was advised to discontinue the usage of the Vitamin C supplement and came to the clinic after 14 days in full clinical remission with only postlesional skin changes. This way we proved acrylates and sellac drug capsules to be the cause of the systemic contact dermatitis reaction observed in our patient.

Conclusion:

The wide spreading of acrylic nails recently becomes one of the most frequent causes of ACD in women. Acrylates were the American Contact Dermatitis Society's Allergen of the Year in 2012. Acrylates can be found in many different products such as artificial nails, plexiglass, stomatological and orthopedic materials, some industrial produces, paints, tattoo pigments, UV ink, disks, DVDs etc. With this case we add one more page to the book of the acrylate provoked allergic reactions.

EADV CONGRESS
AMSTERDAM 25-28 SEPTEMBER 2024
EUROPEAN ACADEMY OF DERMATOLOGY & VENEREOLOGY

Abstract N°: 4836

Hypersensitivity to 2-HEMA in the context of manicure and pedicure – systematic review

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Introduction & Objectives:

2-Hydroxyethyl methacrylate (2-HEMA) has become increasingly recognized as a significant contact allergen, especially in the cosmetics industry due to its widespread use in nail care products. This review aims to evaluate the prevalence of 2-HEMA sensitization among professionals such as nail technicians, as well as consumers exposed to these products during manicure and pedicure services. The study seeks to illuminate the health risks associated with exposure to 2-HEMA, with an emphasis on identifying effective strategies for prevention and management of sensitization.

Materials & Methods:

The authors conducted a systematic review of the literature on 2-HEMA hypersensitivity by searching the PUBMED database with the following keywords: “2-HEMA,” “2-HEMA contact allergy,” and “2-HEMA nails.” Of the 68 articles identified, 12 were selected for inclusion in the review, covering publications from the period 2007 to 2024.

Results:

The reviewed literature highlights a prevalent sensitization to 2-hydroxyethyl methacrylate (2-HEMA) across various studies, with significant instances of allergic contact dermatitis (ACD) associated with its use in both occupational and non-occupational settings. Patch testing results reveal varying sensitization rates, with occupational exposure, particularly among beauticians and dental personnel, showing higher sensitization risks. Comparisons of current data with historical records indicate a general decline in sensitization to some traditional allergens but persistent or rising reactions to acrylates like 2-HEMA. Several studies advocate for the inclusion of 2-HEMA in baseline patch test series due to its effectiveness as a screening allergen for detecting methacrylate allergies.

Conclusion:

The findings confirm that 2-HEMA is a prevalent contact allergen with major implications for individuals frequently exposed to nail cosmetics. The high prevalence of sensitization necessitates enhanced regulatory measures, improved product labeling, and increased awareness among healthcare providers about the allergenic potential of acrylates. Further research is recommended to explore cross-reactivity with other acrylates and to refine diagnostic patch testing procedures.

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Abstract N°: 4926

Association and impact of Chronic Hand Eczema on occupational and household/leisure activities– results from the multinational CHECK study

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Introduction and objectives: Chronic Hand Eczema (CHE) is a burdensome dermatological disease, with several subtypes and with diverse etiologies (Irritant contact dermatitis, allergic contact dermatitis, atopic HE, protein contact dermatitis/contact urticaria). CHE may be caused or exacerbated by the exposure to contact allergens and irritants encountered through daily activities. The aim of this study was to investigate the association and impact of CHE on exposures and occupation or household/leisure activities.

Material & Methods: The CHECK (Chronic Hand Eczema epidemiology, Care, and Knowledge of real-life burden) study is an online survey that was conducted among 60,131 adult participants from the general population in France, Spain, Italy, Germany, Canada, and the UK to examine participants' self-reported CHE. Participants were representative of the general population regarding sex, age, region, employment status, urban/rural setting, and, in the UK, ethnicity. Data are reported descriptively.

Results: Among participants who self-reported CHE and completed the full questionnaire (n=2,330), 38.8% (n=903) reported exposure to irritants, and 26.8% (n=624) reported exposure to contact allergens, within the last six months.

Most participants reported improvement in their CHE with reduction of these exposures; 76.4% (n=690), and 74.9% (n=467), for irritants, and contact allergens, respectively.

One in five (21.5%) in the self-reported CHE population attribute their disease to their occupation, and almost one in three (30.3%) to their household/leisure activities.

For participants reporting CHE related to either occupation or daily activities (n=981), 12.2% had to change work assignment or reduce working hours, 6.7% changed job or retired early, and 36.0% had to change household or leisure activities.

Conclusion: A significant proportion of people with CHE relate their skin disease to their occupational, household or leisure activities, and subsequently change their daily activities to reduce CHE-triggering exposures. CHE therefore is a burdensome disease with direct impact on people's occupation and lifestyle.

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AMSTERDAM 25-28 SEPTEMBER 2024
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Abstract N°: 5030

A crossover trial on targeted narrowband UVB versus betamethasone valerate 0.1% ointment for chronic hand dermatitis among adult patients in a tertiary hospital

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Introduction & Objectives:

Hand Dermatitis is the most common occupational skin related condition and due to its chronic and recurrent nature, various treatment modalities have been developed and studied for the control and management of this condition. This study compared the safety and efficacy of targeted narrowband UVB versus betamethasone valerate 0.1 % ointment as treatment for chronic hand dermatitis among adult patients

Materials & Methods:

This randomized crossover trial included sixteen (16) adult patients aged 18-60 years old who have chronic hand dermatitis. Participants were randomly allocated into two groups. Serial gross digital photography of the affected areas of the hands was done prior to treatment and at the end of weeks 2,4,6, and 8. Adverse events were recorded at the end of weeks 2, 4, 6 and 8 based from self-report of the participants and by clinical examination of the investigators. Group A initially received targeted NBUVB and Group B received betamethasone valerate 0.1 % ointment. Mineral oil was used in the wash-out period of two weeks before the crossover of treatment. At week 4, the cross-over of treatment were done. Therapeutic responses were assessed by via the hand eczema severity index (HECSI), Dermatology Life Quality index (DLQI) questionnaire, recurrence and adverse effects at weeks 2,4,6 and 8.

Results:

At baseline, group A had a median HECSI score of 7.5 and median DLQI score of 14 while group B had a median HECSI score of 11 and a median DLQI score of 11.5. HECSI and DLQI scores for both groups significantly decreased from baseline, week 2, 4, 6 and 8 ($p=<0.0001$). Regardless of the sequence of treatment, there is no significant difference whether the patient started on either of the treatment, ($p=0.112$, $p=0.724$, respectively). No adverse effects or recurrences were noted on each week of follow-up.

Conclusion:

Targeted narrowband UVB phototherapy comparable to topical corticosteroids in the management of chronic hand dermatitis. Overall, targeted narrowband UVB is a safe, effective and readily accessible treatment for chronic hand dermatitis administered alone or as adjunct to topical corticosteroids.

EADV CONGRESS
AMSTERDAM 25-28 SEPTEMBER 2024
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Abstract N°: 5663

Hand eczema referred for patch testing: A retrospective study in Shanghai, China from 2018 to 2021

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Introduction & Objectives:

The socio-economic burden of hand eczema (HE) is considerable, especially in severe or occupational cases.

Objectives: To characterize the etiologies and investigate the proportion of relevant positive allergens in Chinese people with HE referred for patch testing.

Materials & Methods:

We conclude a retrospective cohort study on 282 patients with hand eczema among 2775 patients who were patch-tested in Shanghai Skin Disease Hospital between 2018 and 2021.

Results:

Of 2775 patients, 282 (10.2%) had HE, including 201 females and 81 males, with a mean age of 37.7 years (range 7–72 years). In multivariable logistic regression models, age, sex and employment were all not the association with increased odds of HE. Positive patch tests were most frequently seen in office workers (38.2%), followed by the unemployed (20.3%), hairdressers and cosmetologists (8.3%), teachers and students (6.9%), etc. Patients with HE and those who without HE had similar proportions of positive patch tests (78.6% vs. 76.6%, P=0.399). The five most common currently relevant allergens of HE were nickel sulfate hexahydrate (25.3%), methylisothiazolinone (21.6%), methylisothiazolinone/methylchloro-isothiazolinone (MCI/MI) (21.3%), formaldehyde (16.4%) and thimerosal (11.3%). The rate of allergic reactions to the first four of the above five allergens in female patients was higher than that in male patients ($P<0.05$). Compared to non-HE personnel, hairdressers and cosmetologists, teachers and students, and health care workers with HE had a statistically significant rate of positive allergic reactions to specific antigens ($P<0.05$).

Conclusion:

This was a large group of data on HE from China, reflecting the association of HE to higher proportions of positive patch tests, and indicate the significant difference of positive patch test reactions between HE and non-HE, classified by gender and occupation.

EADV CONGRESS
AMSTERDAM 25-28 SEPTEMBER 2024
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Abstract N°: 6068

Allergic contact dermatitis to topically applied glucocorticosteroids.

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Introduction & Objectives:

In the field of dermatology, glucocorticosteroids are one of the oldest groups of drugs administered.

They are commonly used during the treatment of acute and chronic diseases. The wide use of these substances, often incorrectly by patients in preparations without a prescription leads to an increase in the incidence of allergies to topical glucocorticosteroids. An allergic reaction is often suspected due to lack of improvement after treatment or when the condition worsens during the use of topical glucocorticosteroids. To confirm the diagnosis of allergic contact dermatitis, epidermal patch testing should be performed.

The aim of the study was to investigate the frequency of sensitization to topically applied glucocoticosteroids in a group of 1409 patients with symptoms of contact dermatitis. The association between sensitization to topical glucocorticosteroids and other haptens was evaluated. Additionally, associations between allergy to topical glucocoticosteroids and patient's gender and age were analyzed.

Materials & Methods:

A retrospective analysis of patch test results was performed. Data were collected based on the analysis of test results acquired from 1408 patients between March 2018 and April 2024.

Results:

In the study, positive results of patch tests for at least one hapten were found in 866 patients. Sensitization to at least one of the topically applied glucocorticosteroids was cornfirmed in 26 (1,85%) patients. The most frequently observed sensitization was to budesonide (1,42%). The most common co-existing sensitization with sensitization to topical glucocorticosteroids was nickel sulfate and methylisothiazolinone, observed with equal frequency. The highest frequency of sensitization to glucocorticosteroids was observed in the group of patients aged 54-72 years.

Conclusion:

The collected data has significant implications from a public health perspective. Continuous upading of data regarding the prevalence of drug sensitizations, including glucocorticorteroids, is justified due to their impact on the selection of futher diagnostics and treatment of patients, especially in the era of an aging society.

EADV CONGRESS
AMSTERDAM 25-28 SEPTEMBER 2024
EUROPEAN ACADEMY OF DERMATOLOGY & VENEREOLOGY

Abstract N°: 6094

Patch testing in patients with suspected cutaneous drug reactions: our experience over a 5-year period.

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Introduction & Objectives:

Adverse drug reactions (ADRs) commonly affect human skin, resulting in cutaneous ADRs with different phenotypic and etiologic characteristics. Despite the fact that drug provocation tests are considered to be the most reliable tests for a definitive diagnosis, they carry an undeniable medical and legal risks. Since 2001, European guidelines have been published for the performance of skin tests, among which are included Patch testing. The latter are a safe and widely accepted method for investigating ADRs by immunological mechanisms. Sensitivity is highly variable depending on the drug involved and the type of cutaneous ADRs.

Materials & Methods:

We present a retrospective observational study describing our experience over a period of 5 years (2017-2021); in performing patch testing in 22 patients with suspected cutaneous ADRs induced by the systemic administration of medications.

Results:

Only 3 of the patients had a biopsy suggestive of toxicoderma, although all of them had a compatible anamnesis. Patch testing studies performed included the standard GEIDAC series and the patient's own products diluted 30% in water or petrolatum, as well as the suspected drugs in case they were included in the "adverse drug reaction" series (Chemotechnique Diagnostics). Reading was performed at 48 and 96 hours, recording only 1 weak positivity considered relevant to hydrochlorothiazide in a patient taking this antihypertensive drug associated with valsartan. In this case, the patch with the patient's own product was negative.

Conclusion:

The results of our series contrast with those previously published, since we observed only 1 relevant positivity (0.04%) compared with significantly higher rates in other publications (43%). Therefore, in our experience, patching drugs under "maximum simplicity" conditions was not useful in the etiological diagnosis of these ADRs.

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EUROPEAN ACADEMY OF DERMATOLOGY & VENEREOLOGY

Abstract N°: 6419

10-year retrospective review of contact allergies in patients with vulval dermatosis

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Introduction & Objectives:

Allergic contact dermatitis (ACD) is an important diagnostic consideration in the evaluation of patients presenting with vulval dermatoses. Although ACD co-existing with vulval dermatoses is uncommon, identifying and avoiding the allergens can have a positive impact on the management and quality of life of female patients1. The aim of this retrospective review of patch test data was to identify relevant allergens in women presenting with vulval dermatoses in two specialist centres.

Materials & Methods:

Relevant data was extracted from our electronic database and patch test departmental record between 2013 to 2023 from 2 specialist cutaneous allergy centres. Patch tests were performed in accordance with the International Contact Dermatitis Research Group and European Society of Contact Dermatitis guidelines. Patch test readings were performed on day 2 and day 4 and positive reactions were recorded.

Results:

155 female patients with a mean age of 53.4 years were referred for patch testing. Vulval pruritus (37.5%) and vulval eczema (29%) were the two most common presenting complaints for patch test referral. All patients were tested to the standard and anogenital series (100%) and some to extra series including medicaments, cosmetic, plants, acrylates, hairdressing and own products depending on clinical history. Multiple allergens were identified including metals, topical drugs, fragrances, preservatives, cosmetic constituents and rubber additives. The most common clinically relevant allergens were fragrances (27.4%), preservatives (18.5%), textile dyes (4.5%) and medicaments (2.5%). 9.6% patients were tested to the acrylate series but none had a positive reaction. Fragrance allergy was prevalent in patients with a history of vulval lichen planus and lichen sclerosus. 66% patients noticed improvement after avoidance of relevant allergens.

Conclusion:

Patients with chronic vulval dermatoses are at increased risk of ACD and should be assessed for possible contact dermatitis. Patch testing is required to identify relevant contact allergens, the most common of which from our cohort include fragrances, preservatives, textile dyes and medicaments. These results are comparable to previous results reported by Woodruf2 and Vendeweege3. Patient education and follow-up is essential in optimizing treatment and preventing recurrence of vulval ACD

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Abstract N°: 6425

Clinical Pattern, Contributing Factors and Quality of Life Among Patients With Hand Eczema Attending a Tertiary Facility in Northern Tanzania

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Introduction & Objectives:

Hand eczema is inflammation of the skin of the hands with a chronic and relapsing occurrence. It is a multifactorial disease with multiple contributing factors with a large impact on the quality of life both socially, economically and psychologically.

The objectives of this study was to determine the clinical pattern, contributing factors and quality of life among patients with HE attending at a Tertiary Centre in Northern Tanzania.

Materials & Methods:

This was a cross-sectional descriptive, hospital based study. It was conducted at tertiary centre in Northern Tanzania from September 2022 to September 2023. All patients with HE 18 years and above who consented and fitted the inclusion criteria were enrolled into the study with a minimum number of 66 patients. Hand Eczema Severity Index Score (HECSI)was used to assess the severity of hand eczema while Quality of Life Hand Eczema Questionnaire (QOLHEQ) was used to assess their quality of life.

Results:

During the study period, 79 participants who met the inclusion criteria and consented were identified. Age range was 18-70 years with mean age of 35years and female:male ratio of 0.9. 59.5% (47/79) having water related occupations (wet work) and majority of them being heath care workers at 20.3% of all occupations. Scaling and mixed morphology were the most frequent reported presentations at 31.7% each with palms and fingers being most affected at 78.5% and 69.6% respectively. 74.7% had identify triggering factor of symptoms of which water was reported by 34.2% of them followed by detergents at 18.9%. There was a significant impairment in quality of life with increase in severity of HE, wet work, increasing in hand washing frequency and use of detergents. All participants were seen to have a significant negative impairment in their QoL due to the HE.

Conclusion:

There is a significant impairment in QoL among patients with HE attending a tertiary centre in Northern Tanzania. In conjunction with other studies, this study showed those in wet work jobs, increased frequency in hand washing and use of water with detergents their life was negatively impaired. Additionally, a significant positive correlation between QoL and disease severity was seen in this study. Therefore, prompt and proper interventions and holistic approach/treatment is needed to reduce the chronicity of the disease which will in turn reduce the psychological, physical, social and economic burden of the condition.

EADV CONGRESS
AMSTERDAM 25-28 SEPTEMBER 2024
EUROPEAN ACADEMY OF DERMATOLOGY & VENEREOLOGY

Abstract N°: 7002

Allergic contact dermatitis caused by the byproducts of plastic pyrolysis: a case report

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Introduction & Objectives: As the automotive industry shifts towards plastics for their cost-effectiveness in enhancing energy efficiency, workers are increasingly exposed to a range of chemical agents that have the potential to induce skin reactions. This exposure has led to the rise of allergic contact dermatitis (ACD) as a notable occupational health concern within the expanding sector of the plastics industry. The objective of this case to report an ACD due to byproducts of Plastic Pyrolysis in a female worker at a plastics processing facility.

Materials & Methods: Evaluating the occupational imputability to ACD in a Patient Referred to Our Department.

Results: A-year-old female patient, without significant medical history, who had worked in a plastics company for nine years in various position, was referred to our department by her occupational physician. She presented symptoms of erythematous and pruritic lesions on her face, hands, and chest, which had been developing over a two-year period and were suspected to be related to her work. Upon examination, scaly lesions were found in the nasolabial folds, a purplish patch with a crumbled edge on the chest, and thickened, lichenified skin with scattered vesicles on the back of the hands. During the occupational investigation, it was discovered that the patient had worked in assembly, pad printing, and quality control, exposing her to a variety of hazardous substances, notably formaldehyde from plastic pyrolysis. Although, epicutaneous tests using the European Standard Battery and a plastic battery returned negative results, a positive reaction was observed during the eviction re-exposure test. Her ACD experienced by the patient was attributed to occupational exposure to formaldehyde. Consequently, a declaration was made for compensation as an occupational disease. A definitive recommendation was issued to cease exposure to chemicals.

Conclusion: This situation highlights the direct involvement of the risk-supportive work environment in the development of allergic contact dermatitis, highlighting the need for preventive measures and awareness-raising to protect the health of workers exposed to allergenic agents in the plastics industry.

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Abstract N°: 7084

A Single-center, Open-label, Retrospective Study on Eyelid Contact Dermatitis

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Introduction & Objectives:

Allergic contact dermatitis affecting the eyelids (ACD) is a delayed type IV hypersensitivity reaction, peaking 24-48 hours after exposure of eyelid skin to specific allergens, usually manifesting as an erythematous and pruritic rash. Particular susceptibility of the eyelids to ACD has been widely reported. ACD of the eyelids and periorbital skin presents unique characteristics and poses additional risks for patients.

In this retrospective clinical study, our goal is to determine the primary and most prevalent causes of contact allergic reactions involving the eyelids.

Materials & Methods:

This study provides an analysis of patch-test results obtained among a total study population of 1155 patients (820 female and 335 male) investigated for contact allergy between the years 2021-2024. 369 patients experienced dermatitis with facial involvement, 117 of them being patients suffering from conjunctivitis and/or dermatitis on the eyelids and periorbital skin. On average, symptoms began approximately 1.5 years prior to examination. The predominant occupations among these patients were office jobs, followed by healthcare workers and individuals in the beauty industry.

Results:

66% out of the 117 patients with eye or eyelid involvement presented with at least one positive patch test reaction.

The most prevalent allergens that allergens that elicited positive reactions in European Comprehensive Baseline Series sorted by descending positivity in the patient population with eyelid involvement are as follow: Nickel sulfate – 40%, Cobalt chloride – 22%, Lanolin alcohol – 19%, 2-Hydroxyethyl methacrylate – 15%, Neomycin sulfate – 13%, Benzisothiazolinone – 12%, Methyl & MethylChlorisothiazolinone – 9%, Paraphenylene diamine – 8%, Colophonium – 7%, Methyldibromo Glutaronitrile – 7%.

Conclusion:

The predominant allergen groups implicated in eyelid allergic contact dermatitis include metals, preservatives, topical antibiotics, acrylates, and surfactants. The prevalence of positive reactions to metals can be attributed to the significant presence of nickel and cobalt particles in decorative cosmetics, contributing to the high incidence of allergic contact dermatitis on the eyelids. A comprehensive understanding of diagnostic and treatment approaches for ACD is crucial for the improvement of patient outcomes. Identification and avoidance of the offending allergen is fundamental to the treatment of eyelid ACD. Recognition of a potential ACD case should prompt a detailed patient history and initiation of an empiric allergen avoidance program.

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Abstract N°: 7197

Reaction to hair dye during dupilumab therapy in a patient with atopic dermatitis

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Introduction & Objectives: Allergic contact dermatitis (ACD) is a common T cell-mediated skin disease affecting at least 10% of the adult population. Monoclonal antibodies such as dupilumab, directed against the alpha subunit of the interleukin (IL)-4 receptor with consequent inhibition of IL-4 and IL-13, have been widely used in clinical practice worldwide for several years for severe form of atopic dermatitis (AD). ACD involves type IV-mediated hypersensitivity to a specific allergen, resulting in an inflammatory response with exposure. Although the underlying immunological pathways in ACD and AD are not the same, they are largely overlapping. Patch testing (PT) patients on systemic immunosuppression or immunomodulation has been a point of complexity and even controversy because it seems that patients treated with biological drugs such as dupilumab could have a reduced skin response and PT can be inconclusive.

Materials & Methods: Herein, we present the case of a 38-year-old female patient with a lifelong history of AD with early onset relapsing pattern. She also reported seasonal allergic asthma and rhino conjunctivitis and bilateral keratoconus. Her AD treatment regimen included topical and oral corticosteroids, topical calcineurin inhibitors, and, later on, oral cyclosporine with partial response. On May 2021, patient was initiated on dupilumab treatment for severe atopic dermatitis, starting with a 600 mg dose, followed by biweekly 300 mg doses with notable improvement on her DA in few months. On January 2024, after almost 3 years under dupilumab therapy, there was concern for ACD after a suspicious reaction to hair dye, and patch testing was recommended.

Results: On February 2024, skin PT adult standard series Italian baseline (SIDAPA) 2023 and hairdressing grouping (Smart Practice, Rome, Italy) were performed, showing extremely positive reaction for allergens shown in table 1, on day 2 and 4 lecture. Additionally, on day 4, the patient presented a delayed irritative reaction to the glue of the patch and bilateral axillary lymphadenopathy.

Conclusion: This case provides evidence of a positive PT reaction while concurrently biologic therapy, confirming the possibility of testing patients taking dupilumab, with good reproducibility and PT relevance. Some authors assumed that certain allergens are rather Th1- or Th2-mediated, resulting in different immune activation pathways, suggesting that dupilumab action depends on the specific allergen tested. Given the much-debated topic, more studies are needed to fully clarify the role of inhibition of IL-4 and IL-13 induced by dupilumab and the impact on PT response to better understand the effects of biologic therapy on ACD.

Table 1. Results of patch tests at different time points

Allergen name	Concentration	Lecture at 48 hours	Lecture at 96 hours
p-Phenylenediamine	1.0% pet	3+	3+
p-Aminophenol	1.0% pet	3+	3+
Disperse Orange 3	1.0% pet	3+	3+
O-nitro-p-phenylenediamine	1.0% pet	3+	3+
p-Toluenediamine Sulfate	1.0% pet	2+	3+
3-Aminophenol	1.0% pet	3+	3+

Legend: pet, petrolatum; 1+ (weakly positive), 2+ (strongly positive), 3+ (extremely positive)The patch tests were scored on day 2 and 4 according to criteria in The European Society of Contact Dermatitis' guideline (−, negative reaction; -/+, doubtful reaction; 1+, 2+ or 3+, weak, strong or extreme positive reaction).