

**Abstract N°: 52****Allergic contact dermatitis in pediatric patients: an epidemiological study of the last 20 years**

Anna Zambello¹, ANNA BELLONI FONTINA², Francesca Caroppo³

¹University of Padua, Dermatology, Padua, Italy

²University of Padua, Padova, Italy

³University of Padua, Padua, Italy

Introduction & Objectives: Allergic contact dermatitis is a common skin condition affecting up to 20% of the population. While in adults contact dermatitis is a well-known identity, the evidences about allergic contact dermatitis in childhood are lacking and often discordant. A 23-years patch test review on Italian children investigating the allergens prevalence and correlations with their characteristics and atopic dermatitis.

Materials & Methods: Our epidemiological, monocentric and retrospective study analyzed a sample of 4240 children aged ≤ 18 years old from 1997 to 2020 with 95% of confidence interval and statistical significance was set at $p < 0.05$.

Results: 2343 were respectively girls (55,3%) and 1897 (44,7%) boys; 1949 children (46%) have concomitant diagnosis of atopic dermatitis, 2291 (54%) did not. Of the population with atopic dermatitis, 1075 (55,2%) were girls and 874 (44,8%) were boys. 52,6% of general positivity was seen at 72hrs for at least one allergen: the 10 most frequent allergens were nickel with 21.65%, cobalt with 12.67%, potassium dichromate at the third place with 9.79%, then thimerosal (6.86%), followed by neomycin sulphate with 5.97%, Kathon CG in 3.99%, Balsam of Peru in 3.94%, cocamidopropyl betaine in 3.23%, disperse red in 2.24% of cases and lanolin alcohol in 2.19%. There is dependence between gender and some allergens: nickel was more positive in females (p -value=0.001499) and on the other hand prevalence was higher among boys for neomycin sulphate (p -value = 0.0009995), cocamidopropyl betaine (p -value = 0.008996) and lanolin alcohol (p -value= 0.0004998). Children with atopic dermatitis had a significantly greater prevalence of positive reactions to potassium dichromate with 11,75% (p -value = 0.0004998).

Conclusion: This study confirms that contact sensitization is frequent in pediatric population, especially in very young children, and patch testing is the criterion standard for diagnosis of ACD. When there is a suspicion of contact allergy it should always be performed, or when dermatitis does not respond to conventional therapies, avoiding a delay on the diagnosis and a worsening of the symptoms.

Metals are still the leading group of contact sensitization and allergic contact dermatitis to these substances is still high, nevertheless the recent legislation; particular attention should be paid to the increasing prevalence during years to cobalt chloride, neomycin sulphate and Kathon CG. According with literature, nickel was more frequently sensitized among girls, whereas neomycin sulphate, cocamidopropyl betaine and lanolin alcohols among boys; regarding age groups, infants seem more susceptible to disperse red, nickel and potassium dichromate, whereas Kathon CG, thimerosal and fragrances are more present in adolescents.

Particular attention should be also paid to cobalt chloride, disperse blue and red, balsam of Peru and fragrance mix I, because of their large irritant effect and consequent false positive diagnosis of allergic contact dermatitis.

Eight substances showed a prevalence lower than 0.5%, proving that the environmental exposure to which children are interfaced is constantly evolving, suggesting that new substances should be added in replace of the least frequent.

Although literature is conflicting, there is a continued need to investigate the interplay between these disease

processes to optimize care for pediatric patients with these conditions, with the awareness that children are not just little adults.

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**Abstract N°: 450****Understanding of acrylate allergy amongst nail technicians**Musfira Shakeel¹, Ian Coulson²¹Salford Royal Hospital, Salford, United Kingdom²The Beardwood Hospital, Blackburn, United Kingdom**Introduction & Objectives:**

Acrylate monomers are used in a range of applications. Due to easy access to beauty services and do-it-yourself kits, acrylate allergy is becoming an increasingly evident problem. Its awareness amongst technicians and their customers is vital for timely identification, diagnosis and hence avoidance of allergen.

Materials & Methods:

We carried out anonymous survey of nail technicians in the UK from September 2024- October 2024. The aim was to determine their understanding of acrylate allergy and its wider application to ultimately create an educational platform to increase awareness.

Results:

In total 102 technicians completed the survey. Over half (54%) did not have a regulated trade body such as the Federation of Nail Professionals. In terms of customer involvement, 55% had written consent procedure in place, however 79% did not have consumer awareness safety checklist for artificial nails. 16% of respondents did not routinely warn their customers about possible allergic reactions.

Nearly all respondents declared to be aware of acrylate allergy (99%) with 41% having encountered it in their practice. Over 80% were aware of potential allergic reaction secondary to acrylate, gel, shellac and home kit nails. When exploring the awareness of clinical signs, 99% identified involvement of fingers, 97% hands and 80% face and neck as a sign of acrylate allergy.

Only 20% correctly recognised presence of acrylate in glucose monitoring devices, 94% in dental work, 71% for artificial eyelash glue, 84% for orthopaedic work and 74% for paint and varnishes. The majority (88%) were aware of wearing nitrile gloves for acrylate allergy though 20% of respondents incorrectly selected other gloves including latex, polyvinyl and neoprene and 11% were unsure. 85% showed interest in learning more about acrylate allergy.

Conclusion:

The popularity of artificial nails will likely continue to rise. Such practices can be difficult to regulate. It is important to encourage awareness of potential risks of and the clinical manifestations of sensitisation to acrylates amongst technicians and their customers so that early signs can be recognised, and appropriate preventative measures are in use.



**Abstract N°: 462****Orofacial granulomatosis secondary to sodium metabisulfite contact allergy**

Vanessa Tran¹, Celestine Wong^{1, 2, 3}, Simone Belobrov^{1, 4, 5}, Ryan De Cruz¹, Vanessa Morgan^{1, 2}, Laura Scardamaglia^{1, 2, 6}

¹Royal Melbourne Hospital, Parkville, Australia

²University of Melbourne Faculty of Medicine, Dentistry and Health Sciences, Carlton, Australia

³Monash Medical Centre, Clayton, Australia

⁴Melbourne Dental School, Carlton, Australia

⁵The Royal Dental Hospital of Melbourne, Carlton, Australia

⁶Western Health, Footscray, Australia

Introduction & Objectives:

Orofacial granulomatosis (OFG) is characterised by granulomatous inflammation affecting the lips, face, and oral cavity. Its pathogenesis remains unclear, though dietary triggers are recognised contributors. A cinnamon- and benzoate-free diet is often recommended, and patch testing can help identify contact allergens.

We report a biopsy-confirmed case of OFG in which patch testing revealed a novel allergic trigger. This case highlights the utility of patch testing in OFG and identifies a previously unreported allergen association.

Materials & Methods:

A retrospective review of the patient's medical record was conducted. Written informed consent was obtained for publication.

Results:

Patch testing was performed using the Australian Baseline Series, dental screening series, cheilitis common and rare series, and the patient's own toothpaste, which was the only relevant topical exposure on history. A positive reaction (+) to sodium metabisulfite was observed at 48 and 96 hours. No other positive reactions were identified.

On further dietary review, the patient reported regular consumption of jam, fruit juice, and ham, which are common sources of sulphites. A diagnosis of allergic contact dermatitis (ACD) to sodium metabisulfite was made. The patient was advised to avoid all sulphite-containing foods. Within three months of dietary modification, including removal of cured meats and substitution of preservative-free alternatives, the patient experienced complete resolution of lip swelling and oral ulcerations.

Conclusion:

This is the first reported case of OFG secondary to sulphite allergy. Our findings suggest sulphites may represent a potential dietary trigger for OFG and underscore the value of patch testing in affected individuals. While sodium metabisulfite is included in the Australian Baseline Series, it is not universally present in all patch test series. We recommend including sodium metabisulfite when patch testing patients with OFG.



**Abstract N°: 464****Allergic contact dermatitis to Implants: about five cases**

Mounira Ben Yahia^{*1}, Ines Lahouel¹, Houda Abdelwahed¹, Yosra Soua¹, Hichem Belhadjali¹, Monia Youssef¹, Jameleddine Zili¹

¹Fattouma Bouguiba University Hospital , Dermatology department, Monastir, Tunisia

Introduction & Objectives:

Metallic implants are widely used in orthopedic, dental, and reconstructive procedures for their functional and structural support. Allergic reactions to prostheses are increasingly reported and can manifest as localized dermatitis, unexplained swelling, or systemic symptoms, often leading to diagnostic challenges. In this case series, we present five patients who developed allergic reactions to their prosthetic implants.

Materials & Methods:

It was a prospective study collecting the patients presenting allergic reactions to metallic Implants. These patients were tested with the European Baseline Series and Dental Series. Reading were performed according the international Contact dermatitis research group at Day 2 and 3.

Results:

We report five cases of patients (ages 36–67) diagnosed with hypersensitivity to prosthetic implants. Clinical presentations varied, including pain, swelling, pruritic vesicular reactions at the implant site for orthopedic prostheses, generalized lichen planus, and oral lichenoid reactions related to dental implants. Patch testing confirmed metal hypersensitivity (nickel, chromium, cobalt, and palladium, copper) in four cases and 2-hydroxyethyl methacrylate (HEMA) in one case. All these reactions were considered pertinent. Medical management with topical corticosteroids provided incomplete symptom relief. Implant extraction was considered only in one case.

Contact dermatitis to implant is an underdiagnosed complication of prosthetic treatment. It can present with a range of symptoms, often leading to misdiagnoses. In addition to localized dermatitis, systemic manifestations such as lichen planus and oral lichenoid reactions may occur. Metal hypersensitivity was the most common finding, which is expected given that prosthetic implants are typically composed of metal alloys. However, hypersensitivity reactions to **HEMA** (a resin used in dental crowns) highlight that allergic reactions in prosthetic patients can be triggered not only by metals but also by fixation products.

Conclusion:

We empathize through this case series the importance of considering allergic reactions to metallic implants in patients presenting with allergic contact dermatitis or lichenoid lesions.



**Abstract N°: 623****Teledermatology in Rural Settings of Nepal: Overcoming Barriers to Access and Improving Early Diagnosis of Paederus Dermatitis**Elisha Shrestha^{*1}, Ashish Tamang²¹Dhulikhel Hospital, Dermatology, Kavre, Nepal²Dhulikhel Hospital, Dermatology, kavre, Nepal**Introduction & Objectives:**

Paederus dermatitis is a cutaneous reaction caused by the accidental crushing of rove beetles (Paederus species) on the skin. In Nepal, the prevalence of Paederus dermatitis, particularly in rural areas, has prompted the exploration of teledermatology as a viable mode for consultation and management. This study aims to analyze the clinical profile and management outcomes of Paederus dermatitis through teledermatology at a tertiary care hospital in Nepal.

Materials & Methods:

A retrospective cohort study was conducted at Dhulikhel Hospital between June 2024 and August 2024. Patient data were collected via teledermatology consultations, and the clinical presentation, treatment approaches, and outcomes were evaluated. Statistical analyses included the Mann-Whitney U test, the Chi-Square test, and Pearson/Spearman correlations.

Results:

The study comprised 54 patients (59.26% males and 40.74% females) with a mean age of 28.4 years. The most common lesion sites were the neck (12.96%) and thighs (11.11%). Linear reddish plaques (42.59%) were the most prevalent skin change. Symptoms predominantly included itching with burning sensations (35.19%). All the patients were treated with topical corticosteroids and antihistamine. Improvement was seen in mean duration of 4.5 days. Teledermatology effectively facilitated accurate diagnosis and management. No significant correlation was found between age and lesion duration ($p = 0.333$).

Conclusion:

Teledermatology is a valuable tool in diagnosing and managing Paederus dermatitis in rural Nepal, where direct access to dermatological care is limited. Future research should focus on expanding teledermatology's role in other dermatological conditions.



**Abstract N°: 707****A Spicy Case of Contact Dermatitis to Carvone**

Isabella Ribaudó¹, Laura Xiang^{*1}, Shifa Akhtar¹, John Anthony¹, Wilma Bergfeld¹

¹Cleveland Clinic, Department of Dermatology, Cleveland, United States

Introduction

We present a case of allergic contact dermatitis in an elderly female who exhibited persistent lip irritation and mucosal hyperpigmentation, with identified allergens being hydroperoxide of linalool and carvone. There have been no previously documented cases of these allergens leading to the development of mucosal hyperpigmented macules and patches.

Case Presentation

A 75-year-old South Asian female presented with a five-month history of persistent lip irritation, characterized by swelling, dryness, and discoloration. Four months prior to her dermatology consultation, the patient also noted the onset of black patches on her lips. On examination, hyperpigmented macules and patches were observed on the upper and lower mucosal lips, hard palate, and buccal mucosa. Contact allergy was suspected, and she was referred to patch testing while being prescribed triamcinolone ointment and advised to avoid fragranced lipsticks and heavily spiced foods. Two months later, the patient reported significant improvement after discontinuing cinnamon from her diet. Patch testing revealed reactions to hydroperoxide of linalool, a common fragrance, and carvone, found in caraway, dill, spearmint, and fennel. In fact, the patient regularly consumed fennel seeds, or *saunf* in Hindi, a common South Asian breath freshener. Advised to avoid peppermint, fennel seeds, and other allergens, she saw significant improvement by four months, managing symptoms with Aquaphor.

Conclusion

Hydroperoxide of linalool likely caused lip irritation, exacerbated by lipstick, while mucosal hyperpigmentation is more plausibly due to carvone sensitization from frequent spice consumption.

Contact allergy to hydroperoxide of linalool is common (8.8% in 5,511 patients), while carvone allergy is rarer (0.78%).^{1,2} As our patient, carvone-positive individuals are most commonly women over 40, with reported cases often linked to oral irritation, dry mouth, contact cheilitis, and lichen planus.²⁻⁵ Reports of carvone contact allergy are linked to the use of mint-flavored products, such as toothpaste, rather than dietary sources, making this case noteworthy.³⁻⁵ Carvone-containing spices are common in the South Asian diet, emphasizing the importance of patient history. In this case, early identification and avoidance of triggers such as raw fennel seeds and peppermint resulted in a successful outcome.

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Abstract N°: 797

Molecular classification in occupational dermatology – A diagnostic advance in chronic hand dermatoses. Results of a cohort study

Philipp Bentz¹, Kilian Eyerich², Christoph Skudlik³, Schröder-Kraft Claudia⁴, Löffler Harald⁵, Claudia Pfoehler⁶, Nicolas Leitz⁷, Karisa Thölken⁸, Elke Weisshaar¹

¹Division of Occupational Dermatology, Department of Dermatology, Heidelberg University Hospital, Heidelberg, Germany

²Clinic of Dermatology and Venereology, Freiburg University Hospital, Freiburg, Germany

³Institute für Interdisciplinary Dermatological Prevention and Rehabilitation (iDerm), University of Osnabrück, Osnabrück, Germany

⁴Institute for Interdisciplinary Dermatological Prevention and Rehabilitation (iDerm), BG Clinic Hamburg, Hamburg, Germany

⁵Clinic for Dermatology, Allergology and Phlebology, SLK-Hospital Heilbronn, Heilbronn

⁶Clinic for Dermatology, Venereology and Allergology, Saarland University Hospital, Homburg, Germany

⁷Private practice Dr. Leitz and Colleagues, Stuttgart, Germany

⁸Clinic for Dermatology and Allergology, Augsburg University Hospital, Augsburg, Germany

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Molecular classification in occupational dermatology – A diagnostic advance in chronic hand dermatoses. Results of a cohort study

Introduction & Objectives:

Hand eczema and psoriasis share overlapping features, making accurate diagnosis challenging and influencing treatment decisions. Conventional diagnostic approaches rely on clinical evaluation, patient history, allergy testing and dermatohistopathology. Still cases with unclear diagnoses can remain. Molecular diagnostics offer a promising advance in precise disease classification. This analysis evaluates the effectiveness of molecular diagnostics in differentiating hand eczema from psoriasis, assesses disease severity and chronicity, change of therapy and health-related quality of life (HrQoL) over a two-year period.

Materials & Methods:

A prospective cohort study was initiated in November 2020 in Germany, enrolling 287 patients with suspected occupational skin disease. Skin biopsies underwent molecular classification based on gene expression markers (CCL27 and NOS2). Clinical assessments included sociodemographic data, Physician Global Assessment (PGA), the Quality of Life in Hand Eczema Questionnaire (QOLHEQ) and the Dermatology Life Quality Index (DLQI).

Results:

Patients were mostly occupied in the metal working industry (23%), health care (22%), building trades (9%) and food processing (8%). The reported disease duration ranged from of <1 year up to 47 years (mean: 5.5 years; SD: 7.9). 16.4% of patients reported a skin disease for ten or more years. Among 272 patients evaluated with molecular diagnostics, 38.9% had an initially unclear diagnosis. Over 95% of these unclear cases could be successfully clarified via molecular classification. Agreement between clinical and molecular diagnoses was low (27.9%). Over the two-year period, disease severity and chronicity significantly improved ($p < .005$). 9.6% were

healed, 38% had a mild disease severity; while at baseline this was only the case for 19% of the patients. The amount of continuous disease courses dropped from 71% to 43%. Systemic therapy usage increased, especially targeted therapies like Dupilumab (+8.8%). Other systemic therapies (e.g. Baricitinib, Methotrexat) increased by 12%. Meanwhile topical (-10.6%) and systemic (-6.9%) corticosteroid reliance declined. HrQoL improved significantly ($p < .005$), with DLQI scores decreasing by 50% and QOLHEQ by 29%, indicating an individual benefit for the patients.

Conclusion:

Our results demonstrate the chronicity and the impairment caused by hand dermatoses. Molecular diagnostics showed capability to clarify the diagnosis towards psoriasis or eczema in clinically unclear cases. The improved clinical outcomes and HrQoL are in line with the observed shift toward targeted therapies. As novel systemic treatments are on the horizon, precise diagnostic tools will be even more essential for optimized patient care including reducing the burden of occupational skin diseases.

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**Abstract N°: 849****Allergic contact cheilitis due to plastic water bottles.**

Shweh Fern Loo^{*1}, Dawn Oh², regina su ping lim¹

¹Changi general hospital, Dermatology, Singapore, Singapore

²Singapore General Hospital, Dermatology, Singapore, Singapore

Introduction and objectives:

Cheilitis, characterized by dry, cracked, and inflamed lips, can be caused by various factors, including allergic contact dermatitis (ACD). The association between plastic products and ACD is often overlooked in clinical practice. While the role of personal care products in cheilitis is well-documented, this case series explores the less known potential of plastic water bottles as a cause of allergic contact cheilitis, presenting two cases of patch test confirmed ACD to the plastic material used in the bottles.

Materials and Methods:

Patch tests were performed with the department's standard, cosmetic, bakery series and the patients' own lip products including shavings (fine and coarse) from the plastic water bottle mouth pieces. Patches were removed at 48 hours with readings taken at 48, 72 and 96 hours, reactions measured according to the ICDRG criteria.

Results:

Case 1: A 17-year-old non-atopic female with no significant medical history presented with a 3-month history of cheilitis. On examination, she had dry, cracked cheilitis of both lips. During her initial consultation, she was observed using a plastic water bottle, raising the suspicion that the plastic might be a contact allergen. Patch-testing showed + result to the fine and coarse shavings at 72 hours, reactions remaining present at 96 hours, confirming ACD to the plastic material. Cessation of water-bottle use led to the complete resolution of her symptoms without recurrence.

Case 2: An 18-year-old non-atopic male presented with a 2-month history of painful, dry, cracked lips. He had recently started using the same brand of plastic water bottle and developed cheilitis shortly after. Patch-testing also showed + reactions to plastic shavings from the bottle at 72 and 96 hours. Specifically, avoiding the water bottle led to the complete resolution of the condition and he has remained symptom free 2 years post patch testing.

Other weak positives in both above cases were of doubtful relevance and did not affect symptomology. A control case tested with the same method showed clear negative results.

Conclusion:

These cases underscore the importance of considering plastic water bottles as potential allergens in patients with cheilitis. The patch-testing method using plastic shavings provides a simple and effective means of diagnosing allergic contact cheilitis in such cases. The complete resolution of symptoms upon discontinuation of bottle use further supports the causal relationship. Plastic containers may contain polyethylene, polypropylene and other polyolefins that may contribute to contact urticaria and allergic contact dermatitis. This highlights the need for heightened awareness and further investigation into the role of common plastic materials in allergic contact cheilitis.

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**Abstract N°: 1163****Airborne allergic contact dermatitis caused by coffee beans in a coffee roaster: a case-based review**

Michitaro Hayakawa^{1, 2, 3}, Chihiro Suzuki¹, Yingyao Zhu¹, Hidemi Anzai¹

¹Kawasaki Municipal Ida Hospital, Department of dermatology, Kawasaki, Japan

²Hayakawa Dermatology Clinic, Tokyo, Japan

³Saiseikai Yokohamashi Tobu Hospital, Department of dermatology, Yokohama, Japan

Introduction & Objectives:

Airborne allergic contact dermatitis (ACD) is a form of contact dermatitis caused by airborne allergens that adhere to exposed skin areas, particularly affecting exposed body parts. Coffee beans are rarely associated with respiratory or systemic reactions and ACD, but occupational exposure among coffee roasters, café workers, and factory employees handling coffee beans can lead to sensitization.

Materials & Methods:

An otherwise healthy 20-year-old, non-atopic female patient presented with itchy edematous erythema and red papules on her face, anterior neck, bilateral forearms, and dorsum of the hands. Notably, the perinasal region was spared. The eruption appeared within days of starting work as a coffee roaster, where she was responsible for roasting green coffee beans and grinding the roasted beans into powder. Patch tests with the Japanese baseline series and the green coffee beans and roasted coffee powder she used at work applied “as is” were performed. We also performed same patch tests on 10 healthy volunteers.

Results:

All eruptions became depigmented with topical corticosteroid treatment within a week. Patch test showed positive reactions to both green coffee beans and roasted coffee powder (D2/3: 2+, D7: + in all cases) in the patient, while 10 healthy volunteers were all negative to both samples. The characteristic distribution of the skin lesions, combined with the positive patch test results, confirmed the diagnosis of ACD caused by airborne exposure to coffee powder. The patient was instructed to implement protective measures, including wearing long sleeves, gloves, and a face shield to minimize further exposure. With these precautions, she was able to continue her work without experiencing symptom recurrence.

Conclusion:

Consideration of dust exposure should also extend to dealers who process coffee beans. Workers involved in roasting green coffee beans and grinding roasted beans are at risk for airborne contact dermatitis. Because appropriate protective measures can help to prevent symptom onset, it is crucial to implement strict precautions, especially if the patient wishes to continue working in the same environment rather than changing jobs.



**Abstract N°: 1398****Exploring Transepidermal Water Loss, Clinical patterns and Risk factors in Hand Dermatitis of Cashew Nut Factory Workers**Jyothi Jayaraman*¹¹Father Muller Medical College, Mangalore, Department of Dermatology, Mangalore, India

Introduction & Objectives: Occupational dermatoses contribute significantly to occupational diseases, and the data is scarce when majority of the population is into an unorganised sector. Cashew nut processing is a booming industry owing to the growing industrial dynamics. Allergic contact dermatitis (ACD) to cashew nut shell oil has several health and socio-economic implications both for the workers and their families. Transepidermal water loss (TEWL) has been established as a practical, sensitive and non-invasive tool which can be used to indicate or even predict skin damage at an early stage.

Objectives of this study were to determine the clinicodemographic profile, and to measure the transepidermal water loss in hand dermatitis among cashew nut factory workers.

Materials & Methods: It was a cross sectional prospective study, conducted on 190 workers in a cashew nut factory after ethical clearance. The clinico-epidemiological profile, nature of work, duration of employment were noted in a standard proforma for all cashew nut workers. TEWL was measured using a standard Vapometer over hands of all the cashew nut workers. Details of clinical patterns of hand dermatitis in those affected along with the TEWL were evaluated. Pamphlets with patient education regarding safe skin care practices in local language were distributed to all the workers.

Results: Cashew nut hand dermatitis was noted in 100 out of 190 workers and majority of the cases were females (82.10%). Most commonly affected age group was 31- 40 years (71.6%). Pruritus (27.9%), peeling of skin (10%) were the common symptoms and 13.9% of workers had history of atopy. Nearly 82% of the cases presented with symptoms of hand dermatitis within the first 6 months of employment. It was concerning that only 23.2% of workers used protective gloves citing discomfort and interference with their work as the main reasons of not using gloves. TEWL association with nature of work was as follows: cutting (36.3%), grading (30.8%) and peeling (15.4%) and 17.5% in workers handling sorting, packing of cashew nuts and machine operators. Statistically significant association with an elevated TEWL was observed in workers with history of atopy ($p=0.007$), recurrent lesions ($p=0.004$), and skin lesions like erosions and crusting ($p=0.0001$).

Conclusion: These results favour the fact that exposure to allergens like cashew nut seed oil can cause impaired barrier function which causes ACD. Transepidermal water loss (TEWL) using vapometer is a useful objective tool for the assessment of skin barrier function. This data can be used to promote skin safety measures and act as a stimulus to guide policies in occupational dermatoses which is an area that has been neglected thus far.



**Abstract N°: 1444****A Retrospective Analysis in Trends and Risk Factors of Isothiazolinone Contact Allergy**

Namthong Wittayabusarakam^{*1}, Wimolsiri Iamsumang¹, Supachak Smitthisakda¹, Kunlawat Thadanipon^{1, 2}, Pranee Svetvilas¹, Ploychompoo Srisuwanwattana¹, Sarawin Harnchoowong³, Penpun Wattanakrai¹

¹Faculty of Medicine, Ramathibodi Hospital, Mahidol University, Division of Dermatology, Department of Medicine, Bangkok, Thailand

²Faculty of Medicine, Ramathibodi Hospital, Mahidol University, Department of Clinical Epidemiology and Biostatistics, Bangkok, Thailand

³Faculty of Medicine, Srinakharinwirot University, Department of Dermatology, Bangkok, Thailand

Introduction & Objectives:

Methylchloroisothiazolinone/methylisothiazolinone (MCI/MI) and MI contact allergies were epidemic and reached their peak in 2013, resulting in regulations for their use in cosmetics. However, data on the current frequencies and risk factors of isothiazolinone allergy are limited. The study aimed to determine the frequencies, trends, and associated risk factors of isothiazolinone sensitization.

Materials & Methods:

This retrospective study included all patients who underwent patch testing at a tertiary hospital in Bangkok, Thailand, between 2013 and 2024. Demographics, clinical characteristics, and patch test results were reviewed and analyzed to identify risk factors and trends of isothiazolinone contact allergy.

Results:

Of 1,976 patients, the prevalence of MCI/MI, MI, benzisothiazolinone (BIT), octylisothiazolinone (OIT) allergy was 8.6%, 15.6%, 12.4%, and 2.1%, respectively. The overall trend of MCI/MI and MI sensitization was decreasing. Being female (OR = 1.87, 95% CI = 1.35-2.60), generalized rash distribution (OR = 1.60, 95% CI = 1.25-2.04), a history of previous reactions to metals (OR = 1.45, 95% CI = 1.14-1.86), fragrances (OR = 3.28, 95% CI = 2.17-4.97), and rubbers (OR = 1.97, 95% CI = 1.23-3.17), were significantly associated with MCI/MI or MI allergy ($P < 0.05$). OIT sensitization was more common in patients with a history of fragrance and leather allergy (OR = 9.55, 95% CI = 1.61-56.57 and OR = 19.57, 95% CI = 3.06-125.17, respectively, $P < 0.05$). However, no significant risk factors were identified for BIT allergy.

Conclusion:

Isothiazolinone contact allergy remains prevalent despite the regulations. Female sex, widespread rash distribution, and having a history of previous reactions to some contact allergens were associated with positive patch test reactions to isothiazolinones. Continued monitoring is still necessary to evaluate the ongoing trend of isothiazolinone contact allergy.



**Abstract N°: 1527****Rosacea-Like Contact Dermatitis: The Cutaneous Deception Not to Be Overlooked!**

Najat Chebbawi¹, fatimazahra elfatoiki¹, fouzia hali¹, soumiya chiheb¹

¹1 Rue des Hopitaux, Department of dermatology-venereology, CHU IBN ROCHD, CASABLANCA, Casablanca, Morocco

Rosacea-Like Contact Dermatitis: The Cutaneous Deception Not to Be Overlooked!**Introduction & Objectives:**

Airborne contact dermatitis (ABCD) is a specific form of contact dermatitis that occurs following exposure to volatile allergens or irritants, often in occupational settings. It can present as facial erythema, mimicking other inflammatory dermatoses such as rosacea, making diagnosis particularly challenging. Accurate identification of the causative agent and targeted avoidance are essential for rapid and sustained clinical improvement.

Materials & Methods: not applicable

Results:

We report the case of a 53-year-old female beautician who had experienced recurrent facial redness with inflammatory flares and a burning sensation since 2019, worsened by sun exposure. Symptoms improved during work cessation periods. Clinical examination revealed centrofacial infiltrated erythema without telangiectasia or the papular features typical of rosacea. Patch testing showed a strong positive reaction to para-phenylenediamine (PPD), confirming the diagnosis of airborne contact dermatitis induced by occupational exposure to hair dyes. Cessation of handling hair dyes led to a marked improvement of the skin lesions.

Airborne contact dermatitis (ABCD) is an inflammatory condition caused by exposure to volatile allergens, frequently seen in occupational environments such as hairdressing and cosmetology. Para-phenylenediamine (PPD), commonly found in hair dyes, is a well-known allergen capable of inducing allergic contact dermatitis. Clinically, ABCD may resemble other facial inflammatory dermatoses, including rosacea. However, in contrast to rosacea, ABCD usually lacks telangiectasia, papulopustules, and skin atrophy. Moreover, the course of the disease is closely linked to exposure periods and symptom-free intervals, suggesting an environmental trigger. Diagnosis relies on patch testing, which is essential to identify the offending allergen. Management is primarily based on allergen avoidance, coupled with protective measures in the workplace. Topical corticosteroids may be required to manage acute inflammatory episodes.

Conclusion:

This case underscores the importance of considering airborne contact dermatitis in the differential diagnosis of persistent facial inflammatory dermatoses, particularly in professionals exposed to allergenic substances. A thorough diagnostic approach, including detailed occupational history and patch testing, is crucial to avoid misdiagnosis and to ensure effective management based on allergen avoidance.



**Abstract N°: 1892****Allergic contact dermatitis due to minoxidil in two patients with androgenetic alopecia**

Marta Andreu Barasoain¹, Reyes Gamo Villegas¹, Sara de Benito Mendieta¹, Elena Naz Villalba¹, Lucía Martínez Rozas¹, Gemma María Jumilla Martínez¹, José Luis López Estebaranz²

¹Hospital Universitario Fundación Alcorcón, Dermatology, Alcorcón, Spain

²Hospital Universitario Fundación Alcorcón, Alcorcón, Spain

Introduction & Objectives:

The topical 1-oxide of 2,6-diamino-4-piperidinopyrimidine (minoxidil) is possibly the most commonly used treatment for different types of alopecia. The most common side effects of topical minoxidil include exacerbation of seborrheic dermatitis, irritant contact dermatitis, or allergic contact dermatitis. A patch test can be provided to patients with allergic contact dermatitis to determine the causative allergen. The first case of allergic contact dermatitis to 1% minoxidil solution was reported by Weiss et al. in 1984 in a patient treated for alopecia areata. Since then, other cases of contact dermatitis as an adverse event to topical minoxidil have been described in the literature. These instances have been commonly reported to be due to minoxidil solution vehicles such as propylene glycol and less frequently to minoxidil itself. We present two cases of allergic contact dermatitis due to minoxidil.

Materials & Methods:

Case 1. A 37-year-old woman with a history of atopic dermatitis presents with intense itching of the scalp and the appearance of localized skin lesions along the hairline, as well as in the cervical region, ears, and upper eyelid. The patient associates the onset of the symptoms with the start of treatment with 5% minoxidil solution. She denies recent use of hair dyes. Microvesicular lesions are observed on an erythematous-oedematous background, predominantly along the hairline, with particular involvement of the retroauricular fold and helix. Similar lesions accompanied by palpebral oedema are noted on the upper eyelid. Case 2. A 59-year-old male with no significant medical history presents with itchy lesions on the scalp, face, and neck that have been present for two weeks. He had started using 5% minoxidil solution one week prior to the onset of the condition. On physical examination, diffuse erythema and scaling are observed in the facial region, neck, auricular areas, and scalp.

Results:

Epicutaneous tests were conducted on both patients. The Spanish standard series, cosmetic series, 96% alcohol, minoxidil solution "as is", and minoxidil formulated at 1% and 5% in dimethyl sulfoxide (DMSO) were used. Readings at 48 and 96 hours showed a positive reaction in both patients (case 1/case 2 respectively) for minoxidil 1% (++/+), and minoxidil 5% (+++/+++), as well as for the minoxidil solution "as is" (+/+++), confirming sensitization to minoxidil in both patients.

Conclusion:

Allergic contact dermatitis to minoxidil itself is increasingly reported in the literature. Therefore, patch testing should be considered if the patient reports itchiness or erythema following the application of topical minoxidil. Patients who experience an allergic reaction to topical minoxidil are commonly advised to switch to minoxidil foam as it is propylene glycol free. However, patients who are found to be allergic to minoxidil itself are not candidates for using topical minoxidil to treat their alopecia.

Furthermore, the recent use of oral minoxidil has revolutionised the treatment of certain types of alopecia (androgenetic alopecia). The identification of patients with sensitisation to topical minoxidil may be relevant, as some patients with alopecia might require the use of oral minoxidil to manage their hair growth process. Although the initial published series seem to rule this out and it appears to be usable without issue, it is plausible that some of these patients may develop systemic contact dermatitis.

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Abstract N°: 2076

HE: IMPACT (Hand Eczema: Importance of Management in General Practice) - Protocol for a combined epidemiological and interventional study

Ida Marie Nedergaard Thomsen^{*1}, Anne Møller², Kristina S. Ibler^{1, 3}

¹Copenhagen University Hospital - Bispebjerg and Frederiksberg Hospital, Department of Dermatology, Copenhagen, Denmark

²University of Copenhagen, Department of Public Health, The Research Unit for General Practice and Section of General Practice, Copenhagen, Denmark

³University of Copenhagen, Department of Clinical Medicine, Copenhagen, Denmark

Introduction & Objectives:

Hand eczema (HE) is a prevalent and often chronic condition that significantly impacts quality of life and work ability. General practitioners (GPs) play a crucial role in the initial diagnosis and management of HE; however, research on HE management in primary care remains limited. Recent studies indicate that HE patients often endure prolonged both doctors and system delays before receiving appropriate treatment. **Main objective:** To investigate and expand knowledge of HE in general practice by improving understanding of its etiology, diagnosis, prevention, and treatment, as well as identifying cases of occupational HE.

Materials & Methods:

This project consists of three interconnected studies: **1)** A cross-sectional study and survey of HE patients to examine the patient journey, occupational exposure, and delays in care (patient-delay, doctors-delay, and system-delay). Eligible participants, identified via HE diagnostic codes from a national registry will receive questionnaire through digital post. **2)** A cross-sectional study and survey for GPs to assess recognition, treatment, referral patterns (including doctors delay), and knowledge of HE. A patient case with images is included in the questionnaire to evaluate diagnostic and treatment accuracy. Eligible participants, identified via national registry for GPs will be invited to participate through digital post. **3)** An interventional study based on findings from the previous two studies aiming to develop HE educational material (EM) for GP using different methods e.g. focus groups and Intervention Mapping. The EM is expected to include treatment guidelines, referral recommendations, relevant questions for patient history, occupational disease reporting, and sources for relevant patient information. The EM forms a training package consisting of several elements:

1. E-learning module: Interactive cases with images and multiple-choice questions.

2. Workshop: Patient case discussions, training in skincare counseling and reflective exercises.

3. Printed educational material: A clinical HE flowchart for general practice.

The effectiveness of this intervention will be evaluated through questionnaire responses, changes in diagnostic rates, consultation frequency and referral patterns.

Impact:

By strengthening HE management in general practice, this project aims to improve patient outcomes, reduce disease burden, and standardize care nationwide. Given its broad scope, this initiative presents an opportunity for transformative advancements in public health and healthcare equity.

Ethics and Approval:

The study will collect data through questionnaires without involving medication. Therefore, there are no risks of side effects for participants. Ethical research principles will be upheld throughout, with the project being reported to the Data Protection Authority in compliance with the Data Protection Act and GDPR regulations. Participants (both patients and GPs) will provide informed consent after receiving full details regarding the project's purpose, procedures, benefits, and their right to withdraw at any time without consequences. Participation is voluntary, and the project adheres to the principles outlined in the Helsinki Declaration.

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**Abstract N°: 2222****assessment of the role of patch testing in diagnosing allergic contact dermatitis linked to ophthalmic products: a retrospective review of 28 patients**

Amaia Barrutia Etxebarria¹, Jone López Martínez¹, Andrea Berrueta Navascues¹, Rosa María Escribano de la Torre¹, Amaia Urtaran Ibarazabal¹, Sonia Heras Gonzalez¹, Izaskun Trebol Urra¹, RICARCO GONZALEZ PEREZ¹

¹Hospital Universitario Araba, Dermatology Department, Vitoria-Gasteiz, Spain

Introduction & Objectives:

Currently, a wide variety of eye drops are used for both diagnostic and therapeutic purposes in ophthalmology. As with other topical medications, the use of ophthalmic drugs can lead to local and systemic adverse effects. Allergic contact dermatitis (ACD) caused by topical ophthalmic medications is an underdiagnosed condition characterized by eczematous lesions affecting the eyelids or periorbital skin. Performing patch testing in affected patients can be challenging due to the lack of standardization in ophthalmologic patch testing. In this study, we present our experience with 28 patients suspected of having allergic contact dermatitis caused by ophthalmic products, evaluated through patch testing.

Materials & Methods:

A retrospective data review was carried out on all patients with suspected allergic contact dermatitis due to ophthalmic products who underwent patch testing in our department, yielding a total of 28 cases.

Results:

The predominant clinical presentation among the patients studied with suspected allergic contact dermatitis due to ophthalmic products was palpebral eczema (26 out of 28 patients, 93%), of which all but one were bilateral, and 89% (25/28) involved both the upper and lower eyelids. One patient presented with eczema on the upper lip, and another showed periorificial dermatitis affecting both the perioral and periocular regions. Patch test readings were performed at 48 and 96 hours, revealing relevant positive reactions in only 14% of cases. These included one positive result each to latanoprost, tafluprost, polymyxin B, and a hydrating product (Parpadual® gel-cream). In four additional patients (14%) who had negative patch test results, replacement of the suspected eye drop led to complete resolution of symptoms.

Conclusion:

Identification of the allergen is the cornerstone of treatment for allergic contact dermatitis related to ophthalmic products. However, in these patients, performing diagnostic patch testing can be challenging due to the lack of individual test substances and potential confounding factors such as cosmetic products, airborne allergens, and the pharmacological vehicle. The literature highlights the need to standardize and enhance the sensitivity of patch testing in ophthalmology; our case series supports this observation, as we found relevant positive results in only 14% of the patients studied (4 out of 28)



**Abstract N°: 2258****Contact Allergy in Pigmented Contact Dermatitis: A Single-Center Retrospective Study of Patch Test Data From 2004 to 2021 in a Multi-Ethnic Cohort**Shi Yu Derek Lim¹, anthony goon¹, yung hian leow¹, tricia chong¹, Suzanne Cheng^{*1}¹National Skin Centre Singapore, Dermatology, Singapore, Singapore**Introduction & Objectives:**

Pigmented contact dermatitis is an uncommon variant of contact dermatitis, manifesting as hyperpigmentation with minimal or no preceding inflammatory skin lesions. Most studies in pigmented contact dermatitis are conducted in population of skin of colour. We aim to identify the frequency and patterns of contact allergy in our national tertiary referral center, which sees patients of varying ethnicities.

Materials & Methods:

We retrospectively analyzed patch test results of all patients presenting with hyperpigmentation who underwent patch testing to one or more of 266 allergens for evaluation for contact dermatitis and between 1 January 2004 to 31 December 2021. We excluded patients who had concomitant or preceding eczematous lesions. Patch testing was performed with allergens provided by Chemotechnique Diagnostics (Vellinge, Sweden) and occlusion under Finn Chambers on Scanpor tape for 48 hours, with reading on days 3 and 7, according to the recommendations of the International Contact Dermatitis Research Group.

Results:

116 patients were included, with a mean age of 44.9 (± 15.2) years. 39 (33.6%) were male, with 9 (7.8%) having a history of atopic dermatitis. The highest proportion of patients were of Indian ethnicity (43, 37.1%) followed by Chinese (35, 30.2%), Malay (14, 12.1%), Sikh (7, 6.0%), Eurasian (1, 0.9%) and other races (16, 13.8%). The most common sites involved were face (64, 55.2%), neck (30, 25.9%) and forearms (17, 14.7%). 46 (39.7%) had a reaction at least one allergen.

Table 1 shows the allergens for which at least one patient had a positive reaction. Fragrances and cosmetic allergens such as hair dye chemicals, which are commonly implicated in pigmented contact dermatitis, were well-represented. The allergens of greatest present relevance, apart from lidocaine and hydroperoxides of limonene to which only one patient tested positive, were Sudan I (33.3%), followed by p-Phenylenediamine (28.6%), followed by nickel (15.0%). Sudan I is of particular cultural relevance in the Indian population, as it is found in "kumkum", which is a coloured cosmetic commonly applied to the mid-forehead in Hindu women.

Conclusion:

Pigmented contact dermatitis is uncommon, but affects individuals of skin of colour disproportionately, as evident from our study population. We hope this study, based on data collected in our multi-ethnic cohort over 18 years, will shed some light on the frequency of positive and relevant reactions among those presenting with pigmented contact dermatitis. The limitations of this study include its retrospective design and missing data, as well as the large number of positive results with unknown relevance. These data also represent patients from a referral population, which may limit its generalizability.

Table 1: Allergens with Positive Reactions

Allergen	Positive reaction, n (%)	Late Reaction, n (%)	Present Relevance, n (%)	Present/ Past Relevance, n (%)
Lidocaine, 5.0%	1 of 1 (100)	0 of 1 (0)	1 of 1 (100)	1 of 1 (100)
Hydroperoxides of Limonene, 0.3%	1 of 3 (33.3)	0 of 1 (0)	1 of 1 (100)	1 of 1 (100)
Hydroperoxides of Linalool 1.0%	1 of 3 (33.3)	0 of 1 (0)	0 of 1 (0)	0 of 1 (0)
Nickel(II)sulfate hexahydrate, 5.0%	20 of 114 (17.5)	2 of 20 (10)	3 of 20 (15)	10 of 20 (50)
Gold(III)sodium thiosulfate dihydrate, 2.0%	3 of 20 (15)	1 of 3 (33.3)	0 of 3 (0)	0 of 3 (0)
Thimerosal, 0.1%	2 of 15 (13.3)	0 of 2 (0)	0 of 2 (0)	0 of 2 (0)
4,4'-Diaminodiphenylmethane, 0.5%	1 of 8 (12.5)	0 of 1 (0)	0 of 1 (0)	0 of 1 (0)
Sodium metabisulfite, 1.0%	1 of 9 (11.1)	1 of 1 (100)	0 of 1 (0)	0 of 1 (0)
Geraniol, 2.0%	1 of 15 (6.7)	0 of 1 (0)	0 of 1 (0)	0 of 1 (0)
Hydroxycitronellal, 2.0%	1 of 15 (6.7)	0 of 1 (0)	0 of 1 (0)	0 of 1 (0)
Isoeugenol, 2.0%	1 of 15 (6.7)	0 of 1 (0)	0 of 1 (0)	0 of 1 (0)
Toluene-2,5-diamine sulfate, 1.0%	1 of 16 (6.3)	1 of 1 (100)	0 of 1 (0)	0 of 1 (0)
Fragrance mix I, 8.0%	7 of 114 (6.1)	0 of 7 (0)	0 of 7 (0)	0 of 7 (0)
p-Phenylenediamine, 1.0%	7 of 114 (6.1)	0 of 7 (0)	2 of 7 (28.6)	2 of 7 (28.6)
p-Aminophenol, 1.0%	1 of 18 (5.6)	0 of 1 (0)	0 of 1 (0)	0 of 1 (0)
Sudan I, 0.1%	3 of 61 (4.9)	0 of 3 (0)	1 of 3 (33.3)	1 of 3 (33.3)
Cobalt(II)chloride hexahydrate, 1.0%	1 of 21 (4.8)	0 of 1 (0)	0 of 1 (0)	0 of 1 (0)
4-Aminoazobenzene, 0.25%	1 of 30 (3.3)	1 of 1 (100)	0 of 1 (0)	1 of 1 (100)
Fragrance mix II, 14.0%	2 of 67 (3.0)	0 of 2 (0)	0 of 2 (0)	1 of 2 (50)
Myroxylon pereirae, 25.0%	3 of 114 (2.6)	0 of 3 (0)	0 of 3 (0)	0 of 3 (0)
Colophonium, 20.0%	3 of 114 (2.6)	1 of 3 (33.3)	0 of 3 (0)	2 of 3 (66.7)
Methyldibromo Glutaronitrile, 0.5%	2 of 95 (2.1)	0 of 2 (0)	0 of 2 (0)	0 of 2 (0)
4-Tert-Butylphenolformaldehyde Resin, 1.0%	2 of 114 (1.8)	1 of 2 (50)	0 of 2 (0)	0 of 2 (0)
Neomycin sulfate, 20.0%	2 of 114 (1.8)	1 of 2 (50)	0 of 2 (0)	0 of 2 (0)
Benzyl salicylate, 10.0%	1 of 62 (1.6)	0 of 1 (0)	0 of 1 (0)	0 of 1 (0)
Sandalwood oil, 2.0%	1 of 62 (1.6)	0 of 1 (0)	0 of 1 (0)	0 of 1 (0)
Ylang ylang oil, 2.0%	1 of 63 (1.6)	0 of 1 (0)	0 of 1 (0)	0 of 1 (0)
Lavender absolute, 2.0%	1 of 64 (1.6)	0 of 1 (0)	0 of 1 (0)	0 of 1 (0)
Methylisothiazolinone + methylchloroisothiazolinone, 0.02% aq	1 of 67 (1.5)	0 of 1 (0)	0 of 1 (0)	0 of 1 (0)
Hydroxyisohexyl 3-cyclohexene carboxaldehyde, 5.0%	1 of 95 (1.1)	0 of 1 (0)	0 of 1 (0)	1 of 1 (100)
Paraben mix, 16.0%	1 of 112 (0.9)	0 of 1 (0)	0 of 1 (0)	0 of 1 (0)
Betamethasone-17-valerate, 1.0%	1 of 114 (0.9)	0 of 1 (0)	0 of 1 (0)	0 of 1 (0)
Epoxy resin, Bisphenol A, 1.0%	1 of 114 (0.9)	0 of 1 (0)	0 of 1 (0)	0 of 1 (0)
Potassium dichromate, 0.5%	1 of 114 (0.9)	0 of 1 (0)	0 of 1 (0)	0 of 1 (0)

All allergens diluted in petrolatum, unless otherwise stated. Late positives are defined as reactions that only became positive on Day 7. Late reaction, present and present/ past relevance are expressed as a percentage of positive reactions.





Abstract N°: 2292

A Case of Recalcitrant Keratoderma: Importance of Keeping a Wide Differential

Ege Eskibozkurt^{*1, 2}, allen shih^{1, 2}

¹Harvard Medical School, Boston, United States

²Beth Israel Deaconess Medical Center, Dermatology, Brookline, United States

Introduction & Objectives:

Plantar keratoderma can be profoundly debilitating, often making routine activities like walking or working difficult. Acquired cases of plantar keratoderma are commonly caused by psoriasis, allergic and irritant contact dermatitis (ACD and ICD). Because the clinical presentations of these conditions often overlap, misdiagnosis can result in prolonged morbidity and unnecessary exposure to systemic immunosuppressants. This case highlights the diagnostic challenge of recalcitrant plantar keratoderma and underscores the importance of considering a wide differential diagnosis.

Materials & Methods:

A woman in her late 50s presented with a 2-year history of painful hyperkeratosis on the plantar surfaces, initially diagnosed and treated as plantar psoriasis. She had previously undergone treatment with topical corticosteroids and a systemic acitretin, however, her symptoms continued to worsen despite treatment, and biological treatments were being considered as a next step.

Clinical examination revealed thick yellow-orange keratotic plaques with erythema and fissuring, extending onto the dorsal feet. Epiluminescence microscopy showed yellowish scales with prominent fissures and erythematous background, suggestive of chronic inflammation and keratotic changes.

The unusual unresponsiveness to topical steroids and acitretin, along with the spontaneous waxing and waning of symptoms, prompted us to question the initial diagnosis of plantar psoriasis. Given the localization to areas of footwear contact and symptom exacerbation with prolonged shoe wear, contact dermatitis to footwear material was reconsidered. No biopsy was performed. Management focused on allergen avoidance and topical corticosteroid therapy.

Results:

After transitioning to hypoallergenic footwear, continuing with topical corticosteroid therapy under occlusion and discontinuing systemic therapies, the patient reported marked clinical improvement at the 3-month follow-up. Hyperkeratotic plaques and fissures resolved completely, with only minimal residual scaling. Patch testing was deferred due to symptom resolution.

Conclusion:

This case underscores the importance of reconsidering the differential diagnosis in patients with plantar keratoderma unresponsive to standard psoriasis treatments. Footwear-related ACD should be suspected when lesions appear in pressure-prone or occluded areas that come into direct contact with shoe materials. Common allergens include rubber components (thiurams, carbamates, benzothiazoles), adhesives (p-tert-butylphenol formaldehyde resin), and dyes (para-phenylenediamine). The warm, moist environment within footwear can compromise the skin barrier and exacerbate allergic responses. Symptom patterns that fluctuate with specific footwear may further support the diagnosis. In ambiguous cases, patch testing and footwear avoidance trials can

aid in diagnosis. Clinicians should maintain vigilance for environmental triggers to avoid anchoring bias and ensure accurate diagnosis and treatment.

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Abstract N°: 2510

Spectacles Cleaning Products: a hidden source of direct isothiazolinone exposure on facial skin.

Peter Phillips^{*1}, John Bourke²

¹Poole Hospital, Poole, United Kingdom

²South Infirmary Victoria University Hospital, Cork, Ireland

Introduction & Objectives:

Isothiazolinones, widely used preservatives, are required to be declared on rinse-off cosmetic product labels in the EU and UK. Well known sensitisers, they are banned in leave-on cosmetics in the EU and UK. They are known to be present in many non-cosmetic products, such as paints (Lidén & White, Contact Dermatitis, 2024, 90(5):445-457). Spectacle lens cleaning products leave residue which has direct contact with facial skin, effectively under occlusion from the spectacles. Periocular contact allergy has been reported from spectacles washed using detergents containing methylisothiazolinone (MI) (Dendooven et al., J Eur Acad Dermatol Venereol, 2019, 33(11):E412-3). We undertook a survey of the ingredients of spectacles cleaning products and the quality of the labelling.

Materials & Methods:

Spectacles cleaning products were surveyed between January and March 2025 in Ireland, the UK, Spain and the USA. Products were purchased in store or examined online for stated ingredients. Ingredient lists were recorded and analysed. Ingredient labelling was categorised as full, partial or absent.

Results:

155 lens-cleaning sprays and wipes were identified. 39 (25.2%) of these were purchased and 116 (74.8%) examined online. Location of sale was: UK 110; Ireland 22; Spain 17 & USA 10 (some were found in multiple countries).

8 products (5.2%) appeared to have full ingredient listing; 74 (47.7%) had partial ingredient listing; and 73 (47.1%) provided no list at all.

Of those with full listing, 0 contained isothiazolinones. Of the 74 with partial labelling, 19 (25.6%) contained one or more isothiazolinone. 10 contained both methylchloroisothiazolinone (MCI) and MI; 4 contained MI alone; 1 was labelled to contain MCI alone; 5 benzisothiazolinone (BIT); 1 octylisothiazolinone (OIT).

Of the 82 products with full/partial listing, fragrances (e.g. 'parfum' or a specific fragrance such as limonene) were labelled in 29 (35.4%). 2 other unlabelled products were presumed to contain fragrance based on their descriptions ('lemon-scented').

Other potential allergens listed were the preservative iodopropynyl butyl carbamate (IPBC) n = 7, the formaldehyde-releasing preservative DMDM hydantoin, n = 3, and the disinfectant polyhexamethylene biguanide n = 2.

3 products (2%) sold on the European market were labelled solely in Chinese characters.

71 products (45.8%) were made in Europe (UK 41; Germany 8; Italy 8; France 5; Spain 4; Ireland 2; Belgium 1; Poland 1; and 'EU' 1. 48 were made outside Europe (China 30; USA 13; Japan 3; and Turkey 2). 36 provided no information of country of manufacture.

Products made in Europe had full or partial labelling in 61%; rest of world 58%; unspecified location 22%.

Conclusion:

Labelling of spectacles cleaning products is very poor, with only 8 having full ingredient listing and almost half listing no ingredients at all. As a significant number of those with full/partial ingredient listing contain isothiazolinones, it is reasonable to assume that a significant proportion of unlabelled products also contain them. Such products may represent a hidden source of isothiazolinones which can sensitise the consumer or elicit dermatitis in those previously sensitised. We recommend stricter legislation of these products to protect the consumer. It is important to ask patients with dermatitis of the cheeks, nose, temples or forehead about the use of such products, to avoid missing a treatable cause of facial dermatitis.

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**Abstract N°: 2537****Allergic contact dermatitis in a patient with metallic implant: think about other allergens not just metals!**Ines Lahouel¹, Mounira Ben Yahia^{*1}, Hichem Belhadj Ali¹, Yosra Soua¹, Monia Youssef¹, Jameleddine Zili¹¹Dermatology department, Fattouma Bouguiba University Hospital , Monastir, Tunisia**Introduction & Objectives:**

Allergic contact dermatitis (ACD) in patients with metal implants can pose diagnostic challenges. While metal sensitization tends to be the most frequent cause, ACD to fragrance found in personal care products and topical medications should be considered.

Observation:

A 60-year-old male presented with localized pruritic erythematous vesicular lesions on the right knee that had been evolving on the course of two months. The lesions appeared one month after undergoing total knee arthroplasty and were localized near the implantation site. Given the clinical presentation and the symptoms onset, the diagnosis of allergic contact dermatitis (ACD) was suspected. Patch testing was performed using the Chemotechnique European Baseline Series, the Dental Series and the patient's topical treatments (Betadine© diluted 10 percent in water and Mebo© cream), applied on IQ Ultra chambers to his arms. Readings at Day 2 and Day 3 revealed a strong sensitization to Peru Balsam (+++/+++), Fragrance Mix II (+++/+++), Carvone (+++/+++), Eugenol (+++/+++), and Mebo© cream (+++/+++). Patch test with betadine was positive but repeated open application test was negative, confirming an irritative reaction. The positive patch test results indicate hypersensitivity to perfumes that were found in personal care products and to topical treatments prescribed for treating the surgical site. Consequently, a diagnosis of ACD to perfumes was confirmed. The management consisted in treatment with topical corticosteroids alongside discontinuing the use of Betadine© and Mebo© cream. The follow-up showed complete symptomatic relief.

Discussion:

In case of exposure to multiple allergens, it is important to consider different etiologies. In patients with metallic implants, metal sensitization has been well documented. However, sensitization to external allergens particularly fragrances in topical products used around the surgical site can also provoke delayed-type hypersensitivity reactions. Determining the causative allergen is a critical step, as it helps avoid unnecessary interventions such as implant revision. Patch testing remains a valuable tool for identifying specific allergens and guiding management. Patient education on avoidance of identified triggers is essential to prevent recurrence and ensure optimal recovery.

Conclusion:

This case of ACD to fragrances in a patient with a total knee arthroplasty highlights the importance of a thorough dermatologic and allergologic evaluation in the differential diagnosis of peri-implant skin reactions.

**Abstract N°: 2542****Allergic Contact Dermatitis Due to Benzisothiazolinone in Swimming Goggles**Mounira Ben Yahia^{*1}, Ines Lahouel¹, Hichem Belhadj Ali¹, Yosra Soua¹, Monia Youssef¹, Jameleddine Zili¹¹Dermatology department, Fattouma Bouguiba University Hospital , Monastir, Tunisia**Introduction & Objectives:**

There has been a significant increase in the prevalence of contact allergy to Benzisothiazolinone (BIT) over the last years due to its increased use in cosmetic, household and professional products. Here we present a case of allergic contact dermatitis (ACD) due to BIT in swimming goggles.

Materials & Methods:

A 10-year-old child presented with pruritic, erythematous-vesicular peri-ocular lesions that had been evolving over the course of one month. The patient is a competitive swimmer who regularly wears swimming goggles during training and competitions. He reports the onset of lesions in relation to the use of goggles. Clinical examination revealed eczematous lesions localized to the peri-ocular region. Patch testing using the European Baseline Series and Rubber Series from Chemotechnique© revealed a positive reaction to BIT (++/++). Further investigation confirmed that the swimming goggles used by the patient contained BIT. The patch test was relevant given the temporal association between swimming and the onset of symptoms, along with the distribution of the dermatitis corresponding to the area in contact with swimming goggles. Consequently, a diagnosis of ACD due to exposure to BIT in swimming goggles was established. Treatment with topical corticosteroids associated with wearing BIT-free swimming goggles showed complete symptomatic relief.

Results:

This case highlights the potential role of swimming goggles as a source of allergic contact dermatitis. While often overlooked, swimming goggles may contain allergens causing ACD in the peri-ocular region. Components such as rubber, silicone, preservatives, and metal elements in the goggle material can act as sensitizing agents. The peri-ocular region, characterized by thin and sensitive skin, is particularly vulnerable to allergen exposure due to friction from silicone goggle seals and frequent contact with external irritants such as chlorine in swimming pools. In suspected cases of ACD to swimming goggles, patch testing with rubber allergen series can help identify the causative allergen. Avoidance of the incriminated agent alongside topical corticosteroids application results in resolution of symptoms, as was observed in this case.

Conclusion:

This report underscores the need for detailed history regarding professional and leisure activities, particularly in patients with localized dermatitis. Early recognition and identification of contact allergens can prevent chronic symptoms and improve quality of life.



**Abstract N°: 2543****When the rash isn't routine: Allergic contact dermatitis in a patient with metal prosthesis**

Mounira Ben Yahia^{*1}, Khaoula Trimeche¹, Manel Ben Belgacem¹, Ines Lahouel¹, Yosra Soua¹, Monia Youssef¹, Hichem Belhadjali¹, Jameleddine Zili¹

¹Dermatology department, Fattouma Bouguiba University Hospital, Monastir, Tunisia

Introduction & Objectives:

Metal hypersensitivity is increasingly recognized as a potential cause of persistent skin reactions and implant-related complications. In patients with arthroplasty, concurrent sensitization to both metallic implant components and preservatives in topical products can further complicate diagnosis and management.

Observation:

A 60-year-old woman presented with pruritic, eczematous lesions that had been evolving for over two months. The lesions appeared one month following total knee arthroplasty, initially localized near the implant site before spreading to the thighs, back, and shoulders. Based on the clinical presentation and the postoperative onset of symptoms allergic contact dermatitis (ACD) was suspected. Patch testing was performed using the Chemotechnique European Baseline Series, the Dental Series, and the patient's personal products (Till©, a shower gel), applied on IQ Ultra chambers to her back and arms. Readings on Day 2 and Day 3 revealed sensitization to Methylisothiazolinone (MIT) (++/++), Methylchloroisothiazolinone (MCIT) (++/++), Cobalt (++/++), and Nickel (++/++). The positive patch test results for Nickel and Cobalt, common components of orthopedic implants, indicated a hypersensitivity reaction to the prosthesis. Additionally, sensitization to MIT and MCIT, allergens identified in the patient's shower gel, suggested a concurrent ACD to these preservatives. Consequently, the diagnosis of ACD was confirmed, and treatment with topical corticosteroids was initiated. The follow-up showed moderate symptomatic relief, though some lesions persisted. The possibility of knee implant removal was later discussed with the referring physician.

Results:

Metal hypersensitivity remains a debated issue in orthopedic surgery. Nickel, Cobalt, and Chromium are the most common culprits. Clinical manifestations include localized eczematous dermatitis, pain, and stiffness, potentially leading to implant failure. The subsequent extension of the lesions beyond the implant site in our patient is probably attributed to concurrent sensitization to preservatives found in her shower gel. In this patient, avoiding the allergens identified in personal products provided only partial improvement, highlighting the potential chronicity of metal-induced hypersensitivity reactions. While treatment typically involves topical corticosteroids, some cases may require implant revision surgery. However, such decisions require a risk-benefit assessment by the orthopedic team.

Conclusion:

This case highlights the importance of considering ACD in patients with unexplained dermatologic symptoms following implantation of metallic prosthesis. It also emphasizes the need to investigate concomitant sensitization to other allergens for accurate diagnosis and effective management.

**Abstract N°: 2945****The Beetle That Burns: Clinical Variability of Paederus Dermatitis in Western Mexico**

Valeria Tellez Giron¹, Brenda Ayuzo del Valle¹, Victor Manuel Tarango Martínez², Maria Elena Sanchez Castellanos²

¹Instituto Dermatológico de Jalisco “Dr. José Barba Rubio” OPD Servicios de Salud Jalisco, Secretaría de Salud Jalisco, Dermatology Resident, Zapopan , Mexico

²Instituto Dermatológico de Jalisco “Dr. José Barba Rubio” OPD Servicios de Salud Jalisco, Secretaría de Salud Jalisco, Dermatology Attending , Zapopan , Mexico

The Beetle That Burns: Clinical Variability of Paederus Dermatitis in Western Mexico**Introduction & Objectives:**

Paederus dermatitis is an irritant contact dermatitis caused by *paederin*, a vesicant toxin present in the endolymph of beetles from the *Paederus* genus. The toxin inhibits protein synthesis and induces epidermal necrosis, triggering acute inflammation. It is more common in warm and humid climates, especially during the rainy season. These phototactic insects are attracted to artificial light sources, such as lamps and screens, often entering homes, where accidental contact with human skin occurs.

Lesions typically appear as pustules or vesiculopustules, either linear or in plaques, on exposed areas such as the face, neck, and extremities. They are commonly associated with burning, itching, and occasionally systemic symptoms like arthralgia. Standard treatment includes topical corticosteroids and oral antihistamines. However, due to its resemblance to infectious dermatoses, it is often misdiagnosed, leading to unnecessary antibiotic use.

Despite its distinctive features, *Paederus* dermatitis is often underrecognized. Given its variable presentation and overlap with other dermatologic conditions, clinicians—especially in endemic areas—should be familiar with its spectrum. This case series aims to illustrate clinical variability and highlight the importance of early recognition and proper management.

Materials & Methods:

A retrospective review was conducted of five cases diagnosed with *Paederus* dermatitis at an outpatient dermatology clinic in western Mexico, between September and November 2024. Data collected included age, sex, lesion location and morphology, associated symptoms, history of insect contact, treatment, and clinical outcomes. In one case, a Gram stain was performed to rule out bacterial infection.

Results:

All five cases presented distinct clinical patterns. Two patients presented with pustular lesions with surrounding erythema—one on the face, the other on the face and neck—without systemic symptoms. A third patient exhibited the classic linear vesiculopustular pattern on the lower extremity, resembling a “whiplash” distribution. The remaining two showed the “kissing lesion” sign: mirror-image plaques on adjacent upper extremity surfaces, suggesting toxin transfer through skin-to-skin contact.

All patients reported sudden lesion onset after a burning sensation and recalled the sensation of an insect crawling on their skin. None had a history of similar episodes or preexisting dermatological conditions. Diagnosis was clinical in all cases; no antibiotics were prescribed. All patients responded favorably to topical corticosteroids and oral antihistamines, with improvement in 48–72 hours and complete resolution in 7–10 days, without complications or scarring.

Conclusion:

These cases highlight the broad clinical spectrum of Paederus dermatitis and underscores the importance of recognizing it in endemic regions. Its presentation—characterized by sterile pustules and erythema—can mimic infectious conditions, leading to unnecessary antibiotics and omission of first-line corticosteroid therapy. Early recognition is essential to ensure appropriate treatment and to support rational antimicrobial management.

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Abstract N°: 3220

Cold Trauma and Chilblains Secondary to Expanding Isocyanate Foam: A Misleading Occupational Exposure Case Report

Rima Houssaini¹, esther king², victoria matharu³, daniel keith^{1, 2}

¹university of bristol faculty of health & life sciences, bristol, United Kingdom

²north bristol NHS trust, southmead hospital, bristol, United Kingdom

³st mary street surgery, thornbury, United Kingdom

Title: Cold Trauma and Chilblains Secondary to Expanding Isocyanate Foam: A Misleading Occupational Exposure Case Report

Introduction & Objectives:

Chilblains (perinosis) are skin reactions triggered by exposure to cold and wet

conditions that stay above freezing temperatures. They typically present as red-purple lesions that are tender and itchy with associated oedema in acral regions.

Chilblains are rare in isolated, work-related events, but they are frequently associated with underlying medical conditions or prolonged exposure to cold environments. This case emphasises the significance of identifying non-allergic mechanisms of skin injury by bringing to light a previously undescribed cause: localised cold trauma from an expanding isocyanate foam product.

Case Details:

A 62-year-old man presented with a two-month history of red-purple, maculopapular lesions with associated swelling, confined to his right hand. The onset followed accidental exposure to an expanding isocyanate foam, during which defective personal protective equipment allowed foam to fill the glove and encase his hand. Previous initial assessments considered allergic contact dermatitis, vasculitis, connective tissue disease and Sweet's syndrome as possible differentials. After presenting in clinic, further investigation and a biopsy revealed findings consistent with cold trauma and chilblains, without evidence of vasculitis or allergic contact dermatitis. The patient was managed conservatively with monitoring and supportive care, and symptoms resolved over 3.5 months.

Discussion:

Although isocyanates are a known cause of allergic contact dermatitis, the results from investigations were inconsistent with dermatitis and thus pointed toward cold trauma. The expanding foam's propellant gases likely created a transient, enclosed hypothermic environment inside the glove, sufficient to induce chilblain-like lesions. To our knowledge, this mechanism of injury has not been previously documented.

Conclusion:

Due to the physical characteristics of an isocyanate-based chemical, this case demonstrates a new manifestation of localised cold trauma. It emphasises how important it is for dermatologists to consider non-allergic mechanisms in occupational exposures, especially when histology and clinical results deviate from typical allergic patterns.

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**Abstract N°: 3307****Contact allergy to hair dye allergens: A single-center retrospective study of patch test data in a multi-ethnic cohort from 2004 to 2021**

Shi Yu Derek Lim^{*1}, anthony goon¹, yung hian leow¹, tricia chong¹, Suzanne Wei Na Cheng¹

¹National Skin Centre, Dermatology, Singapore, Singapore

Introduction & Objectives:

Hair dyes are a well-recognized source of contact allergens, both in occupational and non-occupational settings. Cross-reactions and concomitant sensitization among different hair dye allergens have also been documented. We aim to identify the frequency of contact allergy to hair dye allergens, as well as patterns of cross- and co-sensitization, in our tertiary referral center.

Materials & Methods:

We retrospectively analyzed patch test results of all patients who underwent patch testing with one or more of six hair dye allergens between 1 January 2004 to 31 December 2021. Patch testing was performed with allergens provided by Chemotechnique Diagnostics (Vellinge, Sweden) and occlusion under Finn Chambers on Scanpor tape for 48 hours, with reading on days 3 and 7, according to the recommendations of the International Contact Dermatitis Research Group.

Results:

7853 patients were included, with a mean age of 40.0 (± 16.4) years. 3241 (41.3%) were male, with 1350 (17.2%) having a history of atopic dermatitis. The most common sites involved were the face (1432, 18.2%), fingers (1418, 18.1%) and hands (1411, 18.0%). 568 (7.2%) had a reaction at least one allergen, with 106 (1.3%) to two or more allergens. 320 (8.1%) reactions were deemed to be of past or present relevance, and 53 (6.8%) of positive patch test results only became positive on Day 7. Table 1 shows the relative frequency of positive reactions for individual allergens. Patterns of concomitant sensitization are as shown in Table 2, with *p*-Phenylenediamine and toluene-2,5-diamine sulfate having the highest co-sensitization rate at 11.2%. 12 (2.1%) cases were deemed occupational. Only seven patients without *p*-Phenylenediamine contact allergy demonstrated contact allergy to other hair dye allergens, of which two had reactions only to resorcinol.

Conclusion:

Hair dye allergens remain a significant source of contact allergy. Though the rates of *p*-Phenylenediamine and toluene-2,5-diamine sulfate co-sensitization in our study are lower than previously reported, patch testing for different hair dye allergens is still important to identify suitable alternatives for patients, who often wish to continue dying their hair. *p*-Phenylenediamine is a good marker for contact allergy to hair dye, justifying its continued inclusion in the standard series, as very few patients without *p*-Phenylenediamine contact allergy had reactions to other hair dye allergens.

Table 1: Hair dye allergens ranked by relative frequency (%) of positive reactions

	Positive Reactions, n (%)	Late Reactions, n (%)	Past/ Present Relevance, n (%)
Toluene-2,5-diamine sulfate, 1.0%	73 of 629 (11.61%)	8 (11.0)	23 (31.5)
<i>p</i> -Aminophenol, 1.0%	75 of 786 (9.54%)	1 (1.3)	35 (46.7)
<i>p</i> -Phenylenediamine, 1.0%	560 of 7848 (7.13%)	38 (6.8)	235 (42.0)
<i>m</i> -Aminophenol, 1.0%	37 of 630 (5.87%)	4 (10.8)	15 (40.5)
2-Nitro-4-phenylenediamine, 1.0%	29 of 621 (4.67%)	2 (6.9)	10 (34.5)
Resorcinol, 1.0%	7 of 487 (1.44%)	0 (0.0)	2 (28.6)

All allergens diluted in petrolatum. Late reactions and reactions of past/ present relevance are expressed as a percentage of positive reactions.

Table 2: Frequencies of concomitant sensitization to hair dye allergens

	<i>p</i> -Phenylene-diamine, 1.0%	2-Nitro-4-phenylenediamine, 1.0%	Toluene-2,5-diamine sulfate, 1.0%	<i>m</i> -Aminophenol, 1.0%	<i>p</i> -Aminophenol, 1.0%	Resorcinol, 1.0%
<i>p</i> -Phenylenediamine, 1.0%		27 of 619 (4.36%)	70 of 627 (11.17%)	35 of 628 (5.57%)	71 of 782 (9.08%)	5 of 484 (1.03%)
2-Nitro-4-phenylenediamine, 1.0%	27 of 619 (4.36%)		26 of 620 (4.19%)	23 of 621 (3.70%)	24 of 605 (3.97%)	0 of 472 (0.00%)
Toluene-2,5-diamine sulfate, 1.0%	70 of 627 (11.17%)	26 of 620 (4.19%)		30 of 628 (4.78%)	45 of 612 (7.35%)	1 of 477 (0.21%)
<i>m</i> -Aminophenol, 1.0%	35 of 628 (5.57%)	23 of 621 (3.70%)	30 of 628 (4.78%)		30 of 614 (4.89%)	1 of 478 (0.21%)
<i>p</i> -Aminophenol, 1.0%	71 of 782 (9.08%)	24 of 605 (3.97%)	45 of 612 (7.35%)	30 of 614 (4.89%)		2 of 477 (0.42%)
Resorcinol, 1.0%	5 of 484 (1.03%)	0 of 472 (0.00%)	1 of 477 (0.21%)	1 of 478 (0.21%)	2 of 477 (0.42%)	

All allergens diluted in petrolatum.



**Abstract N°: 3992****Para-Phenylenediamine Sensitization and Polysensitization: TNF- α , CXCL11, and Immune-Regulatory Gene Polymorphisms**Jin Ju Lee¹, Heera Lee¹, Ji Yeon Byun^{*1}, You Won Choi¹, Joo Young Roh¹, Hae Young Choi¹¹Ewha Womans University, College of Medicine, Department of Dermatology, Seoul, Korea, Rep. of South**Introduction & Objectives:**

Para-phenylenediamine (PPD), a common component in hair dyes, is a well-known cause of allergic contact dermatitis and has been associated with cross-reactivity to chemically similar substances. Polysensitization (PS) is recognized as a key indicator of increased susceptibility to contact allergy, potentially driven by genetic and inflammatory mechanisms. In our previous study, PPD-positive patients showed a significant association with PS. This study was performed to examine whether single nucleotide polymorphisms (SNPs) in immunoregulatory genes may contribute to genetic susceptibility in relation to PPD sensitization and PS.

Materials & Methods:

From 2017 to 2024, 647 patients undergoing patch testing with the Korean Standard Series at Ewha Womans University Mokdong Hospital were analyzed. PS was defined as reactivity to three or more unrelated allergens, with reactions to nickel sulfate, cobalt chloride, or potassium dichromate counted as a single group. Among them, 17 participants provided blood samples for SNP genotyping of TNF- α , CXCL11, IL16, IL10, and STAT6, performed using TaqMan assays.

Results:

Genotyping revealed a high frequency of the CXCL11 AG genotype (71.4%) in patients with both PPD sensitization and PS, compared to 50.0% in those with PPD sensitization alone. A trend toward a higher frequency of the TNF- α AG genotype (28.6%) was also observed in patients with both PPD sensitization and PS. Among patients with PPD without PS, polymorphisms in IL10 (AG, 50.0%), STAT6 (CT, 50.0%), and IL16 (CT, 50.0%) were frequently observed. Two patients carrying SNPs in all tested genes except TNF- α also exhibited PPD sensitization.

Conclusion:

Immune-regulatory gene variants, particularly those in CXCL11 and TNF- α , may contribute to increased susceptibility to both PS and PPD sensitization. Despite the small sample size, this study is strengthened by seven years of prospective data and findings consistent with previous reports. Genetic screening may aid in identifying individuals at risk for PPD sensitization and PS, warranting further large-scale validation.





Abstract N°: 4210

Diagnostic Comparison of Patch Test and Repeated Open Application Test in Allergic Contact Dermatitis to Cosmetics: A Prospective Cohort Study

Madhumitha Palanisamy¹, prathibha kuchana¹

¹VARDHMAN MAHAVIR MEDICAL COLLEGE, Dermatology, New Delhi, India

Introduction: Allergic contact dermatitis (ACD) to cosmetics is increasingly encountered in dermatologic practice, particularly in regions with high cosmetic usage and limited regulation. While patch testing is the diagnostic gold standard, it is resource-intensive. Repeated Open Application Test (ROAT) offers a simpler, patient-performed alternative that mimics real-world exposure.

Objectives: To compare the diagnostic yield of ROAT with that of standard patch testing in patients with suspected cosmetic-induced ACD.

Methods: Fifty patients with clinical features suggestive of cosmetic-induced ACD were enrolled in this prospective cohort study. Patch testing was performed using the Indian Standard Series (ISS), Indian Cosmetic Series (ICS), and suspected personal cosmetics. ROAT was simultaneously performed by applying the suspected cosmetic on the volar forearm twice daily for 7 days, with evaluations on Days 2, 4, and 7. ROAT results were scored using a modified quantitative scale.

Results: Patch testing showed a positive response in 80% of patients, while ROAT was positive in 58%. Among allergens, paraphenylenediamine (PPD) was the most common (38%), followed by fragrance mix (10%) and colophony (8%). Suspected cosmetics showed higher positivity (80%) compared to ISS/ICS allergens (58%). ROAT demonstrated high specificity and strong clinical relevance, especially in patients with negative or doubtful patch test results. The difference in positivity rates between the two methods was statistically significant ($p=0.017$).

Conclusions: While patch testing remains the cornerstone for diagnosing ACD, ROAT offers a reliable, low-cost adjunct with practical value in confirming clinical relevance. ROAT is especially useful for real-world allergen identification and patient education in settings with limited access to standardized allergens.



**Abstract N°: 4300****The Misfortune of Beauty Traditions: Allergic Contact Dermatitis Due to Pure Henna**

Mouna Korbi¹, ben yahia mounira¹, ben salah nesrine¹, belhadjali hichem¹, soua yosra¹, youssef monia¹, zili jameledine¹

¹University of Monastir, Dermatology, Monastir, Tunisia

Introduction and objectives:

Henna (*Lawsonia inermis*) is a widely used plant as a natural dye for hair and nail coloring and for temporary skin tattoos. Some rare cases of allergic contact dermatitis (ACD) due to exposure to Henna have been reported. The aim of this study was to highlight the different manifestations of ACD due to pure Henna through case series and literature review.

Materials and methods:

This retrospective study included all patients with confirmed allergic reactions to pure henna paste between 2008 and 2025. The diagnosis was established based on clinical history and positive patch test using European standard series (Trolab, Germany), the hairdressing battery and pure powdered henna. Patch testing was performed, on healthy skin of the back, with Finn chambers on Scanpor® tape. Reactions were evaluated on day (D) 2 and D3 according to International Contact Dermatitis Research Group (ICDRG) guidelines. The relevance of positive allergen was recorded as current or past or unknown. We excluded cases with negative patch tests to pure henna.

Results:

This case series included 5 women. All these patients developed dermatologic lesions following Henna application. The patients' presentations included acute bilateral palpebral eczema, acute bullous eczema of hands and feet, scalp pruritus and chronic generalized pruritus. Henna paste was applied as hair dye in two cases, skin tattoos in two other cases and on forehead scarifications for its healing virtues in one case. Henna paste was obtained from powdered dry leaves of this plant mixed with water, without using any natural or chemical additives. A similar previous episode was reported in two cases, while the others denied any similar manifestations after previous applications. Complete remission was observed in all cases using oral corticosteroids in four cases and an association of oral oxacillin and topical corticosteroid in one case. After full remission, all patients were patch tested, using European standard series and pure powdered henna in two cases and the European standard battery alongside the hairdressing battery and pure henna in three cases. In all these cases, we noted only positive reactions only to pure Henna.

Conclusion:

This case series highlights the potential role of pure henna paste in inducing ACD. Clinical presentations vary from localized bullous reactions to generalized pruritus. The difference in clinical manifestations can be explained by atopic predisposition in some patients and by the frequency of application. While often thought to be safe, pure henna paste may rarely behave as an allergen. This low incidence of ACD to pure Henna is either due to its low allergic potential or to the untested patients to pure Henna. In suspected cases, patch testing with pure Henna paste extracted from plant leaves can help identify the causative allergen. Avoidance of the incriminated agent alongside topical or oral corticosteroids application results in resolution of symptoms.



**Abstract N°: 4366****Lichenoid dermatosis: think about shampoo**

Mouna Korbi¹, mahmoud mama¹, ben salah nesrine¹, krime hanin¹, soua yosra¹, youssef monia¹, belhadjali hichem¹, zili jameleddine¹

¹university of Monastir, Dermatology, monastir, Tunisia

Introduction & Objectives: Shampoos are commonly used products for hair and scalp care, containing surfactants, preservatives, and fragrances. Although studies suggest that the sensitizing potential of allergens in rinse-off products is low due to their brief skin contact, allergic contact dermatitis (ACD) caused by shampoo ingredients is well documented in the literature. We report a case of ACD to shampoo in a child.

Materials & Methods:**Results: Case report**

An 8-year-old child, with no significant past medical history or atopic background, presented with persistent scalp pruritus for two months. Dermatological examination revealed two lichenified erythematous plaques with poorly defined borders located on the occipital scalp. Histological examination of skin biopsy revealed lichenoid infiltrate. A thorough history revealed the use of a new shampoo preceding the onset of lesions. Patch testing was performed using the European baseline series and the patient's personal products. Readings were taken at 48 and 72 hours. Only the shampoo tested positive, reproducing the clinical appearance of the lesions. The shampoo was discontinued and the patient was treated with topical corticosteroids, leading to complete resolution.

Conclusion:

ACD to shampoo was confirmed in our patient based on chronological correlation, positive patch testing, and clinical improvement upon withdrawal. Shampoo-induced ACD is a well-recognized entity. Common allergens responsible include preservatives, fragrances, and surfactants. It is recommended to perform additional testing using an extended cosmetic series, including the main surfactants used in shampoo formulations. Unfortunately, such an extended panel was not available in our setting to further investigate this case.



**Abstract N°: 4712****Contact Eczema of the Cheeks Due to Poppy Petal Powder**

ouissal hormi¹, moujahid salma¹, zerrouki nassiba^{1, 2}, zizi nada^{1, 2}

¹Department of Dermatology Venereology and Allergology, CHU Mohammed VI, Oujda Morocco., Oujda, Morocco

²Laboratory of Epidemiology, Clinical Research, and Public Health, Faculty of Medicine and Pharmacy, Mohammed First University, Oujda, Morocco, Oujda, Morocco

Introduction & Objectives:

Contact eczema is an inflammatory dermatosis triggered by a cutaneous reaction to an allergen or irritant. The use of unregulated natural products, such as plants, for cosmetic purposes is an emerging source of sensitization. Although rarely implicated, poppy can induce allergic reactions through unusual routes of exposure.

Materials & Methods:

To present a case of contact eczema of the cheeks related to the use of poppy petal powder as makeup, in order to raise awareness among the allergology community about this potential new allergen.

Results:

A 25-year-old woman consulted for bilateral erythematous, scaly, and itchy lesions on the cheeks, which appeared 48 hours after applying poppy petal powder as makeup. The patient history confirmed the recent use of this natural product, obtained from a local herbalist.

Standardized patch testing, performed with a 10% preparation of poppy powder in petrolatum, showed a strong positive reaction to poppy (48-hour reading: +++, 72-hour reading: +++), while all other tested allergens were negative.

Treatment consisted of the immediate discontinuation of the offending product and the application of a moderate-potency topical corticosteroid for two weeks, resulting in complete resolution of symptoms.

This case highlights the increasing role of plants in delayed hypersensitivity reactions, especially in the context of artisanal product use. There is limited data in the literature describing sensitization to poppy, underlining the originality and educational value of this observation for the allergology community.

Conclusion:

This case underscores the risks associated with the use of unregulated plants for cosmetic purposes and the importance of allergological investigations in identifying new allergens. Better awareness among healthcare professionals and the public is crucial to prevent such reactions.





Abstract N°: 4835

Trends in Contact Sensitization in Children and Adolescents: A Retrospective, Comparative Single-Center Study

Mateja Starbek Zorko¹, Olga Tockova¹, Thomas Peric¹, Tomaz Lunder¹

¹University Clinical Centre Ljubljana, Slovenia, Dermatovenerology, Ljubljana, Slovenia

Introduction & Objectives:

There are limited epidemiological studies investigating the incidence of contact sensitization in children and adolescents, especially comparative studies of contact allergens over a longer period of time. The aim of our study was to evaluate changes in contact sensitization in children with suspected allergic contact dermatitis, find the most common contact allergens and trends over the last 25 years.

Materials & Methods:

We retrospectively evaluated the results of patch tested (PT) patients 18 years of age or younger, tested between 1.1.2000 and 31.12.2004 and compared results with children PT from 1.1.2010 to 31.12.2014 and PT children from 1.1.2020 to 31.12.2024. All patients were tested with at that time recommended European Baseline Series of allergens, in one Medical Centre.

Results:

A total of 1052 patients 18 years and under were patch tested in three, 5-years long periods.

Between 2000 and 2004, 239 patients with a median age of 13 were PT. 149 (62,3%) were female and 90 were male. 33,5% patients had at least one positive result and 12,5% patients had more positive results.

In 2010-2014 period 433 patients with a median age of 11 were PT. 244 (56,4%) were female and 189 were male. 34,2% had at least one positive result and 14,1% patients had more positive results.

In 2020-2024 period 380 patients with a median age of 12 were PT. 225 (59,2%) were female and 155 were male. 25,5% patients had at least one positive result and 9,6% patients had more positive results.

The overall incidence of patients that tested positive varied across analysed periods. Females had a higher positivity of patch tests than males across all three periods.

Sensitization to nickel sulphate decreased significantly, in 2000-2004 a positive reaction was observed in 12.6% patients, in 2010-2014 decreased to 10.4% and in 2020-2024 to 3.9% ($p < 0.001$). Similarly, sensitization to lanolin alcohol decreased, from 4.6 % in 2000-2004, to 2.1% in 2010-2014, and to 0.8% in 2020-2024 ($p = 0.007$).

Nickel sulphate showed sex-specific differences: in 2000-2004 16,1% of girls with positive PT and only 6.7% of boys ($p = 0.033$). In 2010-2014 the sensitization rates were 13.5% in girls and 6.3% in boys ($p = 0.015$).

The association between different allergens was evaluated. A robust co-sensitivity with 93.8% of paraphenylenediamine-positive patients also positive for textile dye mix was observed in 2020-2024 period ($p < 0.001$). The co-sensitivity between fragrance mix and Peru balsam, and between nickel and cobalt chloride was also statistically significant in all three observed periods.

Conclusion:

Contact sensitization can already start in childhood, so patch testing is mandatory for children with suspicion of ACD. As presented in our study, the clinical relevance of specific allergens is dynamic, evolving in response to market trends, children behaviour and product formulations. That is why a continuous surveillance of contact allergy patterns is essential also in paediatric population to ensure that patch testing strategies and preventive measures remain current, targeted and effective.

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**Abstract N°: 5273****Hibifolin modulates the activation of mouse bone marrow-derived dendritic cells and alleviates contact dermatitis induced by 2,4-dinitro-1-fluorobenzene**Chieh-shan Wu^{*1}, Wen-Ho Chuo², Chi-Chen Lin³¹Pingtung Veterans General Hospital, Department of Dermatology, Department of Integrative Medical Center, Pingtung City, Pingtung County, Taiwan²Tajen University, Department of Pharmacy, Pingtung County, Taiwan³National Chung Hsing University, Institute of Biomedical Science and Rong Hsing Research Center for Translational Medicine, Taichung City, Taiwan**Introduction & Objectives:**

Dendritic cells (DCs) serve as pivotal antigen-presenting cells that bridge innate immune mechanisms and the activation of adaptive immune responses. Consequently, DCs are considered prime targets for the development of immunomodulatory compounds. In this study, we explored for the first time the effects of hibifolin, a natural flavanol glycoside, on the activation of mouse bone marrow-derived dendritic cells (BMDCs) stimulated with lipopolysaccharide (LPS).

Materials & Methods:

We employed a cellular model of murine bone marrow-derived dendritic cell (BMDC) activation induced by lipopolysaccharide (LPS), along with a mouse model of contact hypersensitivity (CHS) caused by 2,4-dinitro-1-fluorobenzene, to explore the potential therapeutic effects of black soybeans on dendritic cell (DC) functionality and to elucidate the underlying molecular mechanisms.

Results:

Our results indicate that hibifolin significantly reduces the release of proinflammatory cytokines in LPS-activated DCs. Additionally, hibifolin affected the expression of costimulatory molecules and MHC class II. Hibifolin also modulated the surface expression of CD80 and CD86, indicating its role in fine-tuning DC maturation. Furthermore, in mixed lymphocyte cultures comprising syngeneic OVA-specific T cells and DCs, hibifolin-treated DCs demonstrated reduced ability to stimulate T-cell proliferation and IFN- γ production. Moreover, oral administration of hibifolin attenuated contact hypersensitivity (CHS) responses in mice sensitized with 2,4-dinitrofluorobenzene. The inhibitory effects of hibifolin on DC activation may be associated with its ability to attenuate the LPS-induced activation of the MAPK-ERK, JNK, and NF- κ B pathways.

Conclusion:

Overall, our findings suggest that hibifolin can effectively regulate DC functions, providing new insights into its immunopharmacological role and suggesting its potential utility in treating DC-mediated chronic inflammatory diseases.



**Abstract N°: 5600****Aetiological subtypes of moderate to severe CHE: Signs, symptoms and localisations -Results from the RWEAL study**

Maria Concetta Fargnoli¹, Sonja Molin², Anthony Bewley³, Christian Apfelbacher⁴, Lysel Brignoli⁵, Bleuenn Rault⁵, Jenny M. Norlin⁶, Umut Erhan⁶, Marie-Noëlle Crepy^{7, 8}, Ana Giménez-Arnau⁹

¹San Gallicano Dermatological Institute, IRCCS, Rome, Italy

²Charité - Universitätsmedizin Berlin, Berlin, Germany

³Barts Health NHS Trust & QMUL, London, United Kingdom

⁴Institute of Social Medicine and Health Systems Research, Otto-von-Guericke University Magdeburg, Magdeburg, Germany

⁵Oracle Life Sciences, Paris, France

⁶LEO pharma A/S, Ballerup

⁷Department of Occupational and Environmental Diseases, University Hospital of Centre of Paris, Hotel-Dieu Hospital, Paris, France

⁸Department of Dermatology, University Hospital of Centre of Paris, Cochin Hospital, AP-HP, Paris, France

⁹Department of Dermatology, Hospital de Mar Research Institute, Universitat Pompeu Fabra, Barcelona, Spain

Introduction & Objectives: Chronic Hand Eczema (CHE) is a prevalent heterogeneous inflammatory skin disease of the hands and wrists. CHE includes different clinical and aetiological subtypes, which often overlap. The diagnosis can be complex, and management of CHE is often challenging. The objective of this study was to investigate the extent to which signs, symptoms and locations differed in aetiological subtypes of moderate-to-severe CHE in clinical practice.

Materials & Methods: The RWEAL study (Real-World trEatment & mAnagement of chronic hand eczema in cLinical practice) is a medical chart review conducted in Canada, France, Germany, Italy, Spain, and the UK. Dermatologists and general practitioners with roles in dermatology (UK/Canada) included patients aged ≥ 18 years with moderate to severe CHE treated with TCS in the last 12 months or those contraindicated to TCS.

Up to ten eligible patients per physician were randomly selected from their overall caseload. Differences in signs (pain, pruritus), symptoms (erythema, scaling, fissures, lichenification, hyperkeratosis, vesicles, edema) and locations (palms, fingertips, back of hands, interdigital spaces, wrists) between aetiological subtypes were analysed. Statistical testing was used to test if at least one group was statistically different from another group.

Results: In total, 1,939 adult patients were identified by 292 physicians. Almost a third (28.5%) reported irritant contact dermatitis only ($n = 552$), 24.1% had atopic dermatitis only ($n=467$), 17.9% had allergic contact dermatitis only ($n=347$), 1.7% had protein contact/contact urticaria only ($n= 33$), whereas 14.2% reported multiple subtypes ($n= 276$) and 13.6% were unknown ($n=264$).

All evaluated signs and symptoms were more commonly reported in patients with multiple subtypes compared to those with any other single subtype (p -values <0.001). For symptoms, pain was reported in 44.2% of patients with multiple subtypes, and ranged from 21.2% (protein contact dermatitis) to 33.0% (irritant contact dermatitis) of those with a single subtype. Similarly, pruritus was reported in 72.1% of patients with multiple subtypes and ranged from 30.3% (protein contact dermatitis) to 67.5% (atopic dermatitis) in single subtypes.

Looking at examples of signs, fissures were reported in 61.6% of patients with multiple subtypes and ranged from

24.2% (protein contact dermatitis) to 49.6% (irritant contact dermatitis) in single subtypes. Vesicles were reported in 38.8% in those with multiple subtypes and ranged from 22.1% (irritant contact dermatitis) to 28.8% (allergic dermatitis) of single subtypes.

As expected, patients with multiple subtypes also reported lesions affecting more locations compared to those with any other subtype (p-value <0.001); 65.6% reported lesions on palms, 54.3% in interdigital spaces, 54.0% on fingertips, 50% on the back of hands and 37.7% on wrists. The mean (SD) number of locations was the highest among those with multiple subtypes (2.6 [1.2]), the lowest in protein contact dermatitis (1.5 [1.0]), and similar across other single subtypes.

Conclusion: Patients often experience multiple subtypes and report a particularly high burden of different signs and symptoms of CHE. Patients with single subtypes exhibited a relatively smaller burden for most signs and symptoms across fewer locations. These results highlight the need for treatments that work effectively across subtypes due to the burden associated with overlapping aetiologies.

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**Abstract N°: 5711****Contact allergy in nummular eczema: A 10-year retrospective study**

Pichanee Limtanakool¹, Silada Kanokrungeesee¹, Noldtawat Viriyaskultorn¹, Apichaya Ketyungyoenwong¹, Waranya Boonchai¹

¹Faculty of Medicine, Siriraj Hospital, Mahidol University, bangkok, Thailand

Introduction & Objectives: Nummular eczema is a chronic, relapsing inflammatory skin disease with multifactorial etiologies, including allergic contact dermatitis. However, data on contact allergy in patients with nummular eczema remain limited. This study aimed to assess the overall prevalence of contact sensitization, identify common allergen profiles, and determine the associated allergens in patients diagnosed with nummular eczema compared to those without the condition.

Materials & Methods: This retrospective study included patients who underwent patch testing at contact dermatitis clinic, from 2013 to 2023. All patients were tested with baseline patch test series, along with additional allergens based on patient's clinical history. Participants were categorized into nummular eczema and non-nummular eczema groups.

Results: Of the 4470 patients included in the study, 138 (3.1%) were diagnosed with nummular eczema. Over half of the patients with nummular eczema (55.8%) had positive patch test to at least one allergen, which was not significantly different from the non-nummular eczema group (64.1%). The most common positive allergens in nummular eczema patients were hydroperoxide of linalool (22.6%), nickel sulfate (20.3%) and gold sodium thiosulfate (17.4%). Patch testing revealed significantly higher positive reactions to hydroperoxide of linalool (OR 2.51, 95%CI 1.06-5.97, p-value=0.04) and colophony (OR 1.92, 95%CI 1.04-3.53, p-value=0.03) in nummular eczema patients compared to those without nummular eczema.

Conclusion: Patch testing demonstrated that more than half of patients with nummular eczema had positive reactions. Hydroperoxide of linalool and colophony were significantly associated with nummular eczema. These findings support the recommendation for patch testing in patients with nummular eczema, as it provides information that can inform and optimize disease management.



**Abstract N°: 6269****Topical Azoles and Estrogen Creams: Underrecognized Allergens in Genital Contact Dermatitis**Katherine Holder¹, Tung Tran¹, Giang Nguyen¹¹Mayo Clinic, Rochester, United States**Introduction & Objectives:**

Genital contact dermatitis (gCD) is a prevalent cause of pruritus and discomfort, significantly impacting patients' psychological, psychosexual, and daily functioning. Although gCD may account for up to 20–30% of new dermatologic consultations in some vulvar dermatologic clinics, diagnosis is often delayed due to overlap with other dermatoses. Patch testing enables identification of specific allergens contributing to gCD and is particularly valuable in refractory cases. This study aimed to characterize relevant allergens in patients with gCD using both standard and gynecologic-specific patch test series.

Materials & Methods:

A retrospective review was performed on 123 patients (114 female, 9 male; mean age 48.7 years, SD 16.1) with anogenital symptoms who underwent patch testing at a tertiary referral center. All patients were tested using both a standard series and a gynecologic series tailored to common exposures, including topical medications and personal care products. Positive reactions were recorded and analyzed for frequency and co-reactivity.

Results:

Fifty patients (40.65%) had one or more positive reactions on patch testing. The most frequently identified allergens were topical azole antifungals and estrogen creams. Ketoconazole 2% cream and terconazole 0.8% cream each elicited reactions in 22 patients (18.03%), while conjugated estrogen cream (0.625 mg/g) was positive in 11 patients (9.17%). Among patients sensitized to ketoconazole, 73% (16/22) also reacted to terconazole. These findings differ from existing literature, which more commonly implicates fragrance mixes and topical analgesics as primary sensitizers.

Conclusion:

Topical azoles and estrogen creams emerged as leading allergens in patients with gCD, highlighting a potentially underrecognized source of sensitization. These findings challenge conventional assumptions, as clinicians often empirically treat genital pruritus with antifungals for presumed infection or estrogen for presumed atrophy without a definitive diagnosis. In cases of allergic contact dermatitis, such empiric treatment may not only be ineffective but may prolong symptoms due to continued allergen exposure. Clinicians should exercise caution in the early or prolonged use of topical agents such as ketoconazole and estrogen-containing products when the etiology of a genital rash is unclear. Patch testing offers a valuable diagnostic tool to prevent unnecessary treatment and facilitate symptom resolution. Empiric elimination of high-yield allergens may also serve as a pragmatic alternative in settings where patch testing is not readily accessible. Further studies are warranted to validate these findings and optimize allergen series for the assessment of gCD.



**Abstract N°: 6635****Evaluation of the effect of botulinum toxin injection in aggravating or improving seborrheic dermatitis symptoms: A prospective, single-arm clinical trial**Alireza Jafarzadeh^{*1}

¹Department of Dermatology, Rasool Akram Medical Complex Clinical Research Development Center (RCRDC), School of Medicine, Iran University of Medical Sciences, Tehran, Iran , Tehran, Iran

Introduction & Objectives:

Considering the proven therapeutic effect of botulinum toxin and the pathophysiology of seborrheic dermatitis, conflicting hypotheses have been put forward regarding the effect of injection of this toxin on the improvement or exacerbation of seborrheic dermatitis. Because of the lack of consistent studies investigating this relationship, we decided to conduct this study to investigate the effect of local botulinum toxin injection on sebum production and improvement or worsening of seborrheic dermatitis lesions.

Materials & Methods:

This study was a prospective, single-arm clinical trial that involved the injection of botulinum toxin into 20 patients with complaints of skin wrinkles and simultaneous symptoms of seborrheic dermatitis. The trial was conducted at a dermatology clinic between March 2023 and March 2025. Two important characteristics of these patients were seborrheic dermatitis on the face or scalp and a referral for botulinum toxin injection to remove facial wrinkles. The Seborrheic Dermatitis Area and Severity Index (SDASI) was used to determine the severity of symptoms.

Results:

In study of 20 patients with an average age of 40 years, despite the decrease in the average scores of all examined criteria of seborrheic dermatitis symptoms in study, 1 month after botulinum toxin injection, no significant effect of using this toxin was seen on the improvement of patients' symptoms (p value >0.05).

Conclusion:

Despite the emphasis of many studies on the effectiveness of botulinum toxin in reducing the activity of sebaceous glands, the use of botulinum toxin as a therapeutic modality for control the symptoms of seborrheic dermatitis is not suggested by this study. Conducting studies in which the location and technique of injection and the follow-up intervals of patients in them are based on the standard of other studies, are the suggestions made by comparing the results and method of the current study with other studies.





Abstract N°: 7097

A case of airborne allergic contact dermatitis due to olanzapine.

Nerea Infante-Gonzalo¹, Miren Marquina-Iñarrairaegui¹, Alejandro Joral-Badas², Marcos Hervella-Garcés³, Leire Mitxelena-Elosegi¹, Natalia Valero-Montalvo¹, Paula Arratibel-Goenaga¹, Nerea Ormaechea-Perez¹

¹University Hospital Donostia, Dermatology, Donostia, Spain

²University Hospital Donostia, Allergology, Donostia, Spain

³University Hospital Navarra, Dermatology, Pamplona, Spain

Introduction & Objectives:

Airborne contact dermatitis are skin disorders caused by irritant (ICD) or allergic (ACD) substances that are found in the air and are able to generate various lesions, especially eczematous ones, when they come into contact with the skin. The affected areas are usually those exposed to the air, especially the palpebral, retroauricular and submental regions.

Materials & Methods:

We present the case of a 48-year-old woman who bore facial lesions.

Results:

A 48-year-old woman consulted regarding facial lesions for the last month, with no response to various treatments. She bore eczematous lesions in the palpebral, intranasal, perioral and retroauricular areas. These lesions improved after treatment with oral and topic corticosteroids, but recurred on several occasions. Laboratory tests ruled out autoimmune blistering diseases, among others. The anamnesis highlighted only the use of several ophthalmological eye drops, but the lesions recurred despite avoiding their use. When the patient was questioned about the items she handled, she commented that she crushed psychotropic drugs to administer them to her mother, who was a dependent person. Protective measures (mask, disposable gloves) were recommended, achieving fast and sustained improvement. Allergic contact tests were performed with the standard, extended and adverse drug reaction series of the Spanish Research Group on Contact Dermatitis and Cutaneous Allergy (GEIDAC) of 2020, as well as tests with her own allergens (olanzapine, valproate and lormetazepam). All these tests were read 2 and 4 days after application and were positive for olanzapine (D2++, D4++). These results were interpreted as currently relevant for olanzapine, and the diagnosis of ACD caused by olanzapine was made.

Conclusion:

In case of recurrent dermatitis, the patient's routines should be investigated. Clinical suspicion is essential to diagnose ACD, assessing the distribution of the lesions and the anamnesis, considering that not all exposures are occupational or recreational. Most cases of ACD are of occupational origin, the most frequent allergens being those present in medicines, plants and resins. ACD caused by drugs usually affects healthcare workers or caregivers who crush pills for people with swallowing difficulties.

Olanzapine is an antipsychotic approved for the treatment of schizophrenia and bipolar disorder. Its potential to cause ACD among other skin disorders, such as vasculitis, generalized pustulosis... has already been reported. It is important to educate employees and people in contact with this substance in the proper use of protective equipment.



**Abstract N°: 7591****Multidimensional Burden of Hand Eczema: Clinical Severity, Quality of Life, and Stigmatization**Yezdan İpek Davarcioğlu¹, Aysenur Botsali¹¹University of Health Sciences, Gülhane Training and Research Hospital, Department of Dermatology and Venereology, Ankara, Türkiye

Introduction & Objectives: Hand eczema is a chronic and recurrent dermatological condition that significantly impacts the functional, social, and psychological well-being of those affected. This study aimed to assess the relationships between disease severity (measured by HECSI), overall quality of life (QoL) (assessed through DLQI), disease-specific QoL (utilizing QOLHEQ), and stigmatization in individuals diagnosed with hand eczema.

Materials & Methods: The study involved adult patients diagnosed with hand eczema at a tertiary referral center. Comprehensive demographic and clinical data were gathered, and validated scales were utilized to evaluate various aspects of the disease. These included the Hand Eczema Severity Index (HECSI), Dermatology Life Quality Index (DLQI), QoL in Hand Eczema Questionnaire (QOLHEQ), and the 6-item Stigmatization Scale.

Results: In total, 198 patients (F:M=86:112, mean age=33.3 years, SD=11.0) were evaluated. The mean HECSI score was higher in males (152.1) compared to females (128.6) ($p=0.040$). There was a strong positive correlation between HECSI and DLQI ($r=0.763$), QOLHEQ ($r=0.791$), and stigmatization scores ($r=0.729$) ($p<0.001$ for all). Male patients had significantly higher QOLHEQ and stigmatization scores ($p=0.007$ and $p=0.024$, respectively), however the difference between DLQI scores did not reach statistical significance ($p=0.269$). Increased disease duration was linked to higher DLQI, QOLHEQ and stigmatization scores ($p=0.022$, $p=0.002$, $p<0.001$, respectively). Patients using active treatment upon admission had significantly higher quality-of-life scores than untreated patients ($p<0.001$). Among QOLHEQ subscales, the treatment and prevention domain had the highest impact on stigmatization. ($r=0.744$, $p<0.001$). The other three domains (symptoms, emotions, functioning) also strongly correlated with stigmatization scores. ($r=0.705$, $p<0.001$; $r=0.731$, $p<0.001$; $r=0.720$, $p<0.001$, respectively). Higher scores in the DLQI and QOLHEQ scales were observed, particularly in patients receiving multiple treatment modalities, suggesting a link between treatment complexity and psychological burden.

Conclusion: Regarding social norms, the psychosocial burden of female hand eczema patients can be predicted to be more pronounced than that of males. However, in this study, males exhibited higher QOLHEQ and stigmatization scores, with similar DLQI scores among the two genders. This finding highlights that disease-related features such as hand eczema severity, duration, and insufficient treatment responses were the main confounders for QoL impairment and stigmatization. Notably, the severity of hand eczema was not equally distributed within gender groups, with higher disease severity for males, which might have influenced the psychosocial measures.





Abstract N°: 7945

Contact allergy to rubber accelerators: a single-centre retrospective study of patch test data from 2004-2021

Wen Shuo Tiong^{*1}, Shi Yu Derek Lim¹, anthony goon¹, yung hian leow¹, tricia chong¹, Suzanne Cheng¹

¹National Skin Centre, Singapore, Singapore

Introduction & Objectives:

Chemicals used in the manufacture of rubber can cause allergic contact dermatitis. We aim to evaluate the long-term trend and prevalence of contact allergy to rubber accelerators over 18 years in a national tertiary patch test clinic and examine associations with anatomical sites of dermatitis, high-risk occupations and exposures.

Materials & Methods:

We retrospectively analysed results of all patients who had undergone patch testing to one or more rubber accelerators in the local standard series [thiuram mix, mercapto mix and 2-mercaptobenzothiazole (MBT)], rubber series [carba mix, zinc dimethyldithiocarbamate (Ziram), dipentamethylenethiuram disulfide (PTD), tetraethylthiuram disulfide (TETD), tetramethylthiuram disulfide (TMTD)] and mix breakdown series between 1 January 2004 and 31 December 2021. Patch testing was performed with allergens from Chemotechnique Diagnostics (Vellinge, Sweden) and occlusion under Finn chambers on Scanpor® tape (Norgesplaster, Alpharma, Vennesla, Norway).

Results:

7940 patients were included, with a mean age of 40.1 ($\pm$ 16.4) years. 3272 (41.2%) were male, with 818 (12.3%) having a history of atopic dermatitis. The highest proportion of patients were of Chinese ethnicity (6295, 79.3%) followed by Indian (632, 8.0%), Malay (372, 4.7%) and other races (641, 8.1%). The most common sites involved were the face (2407, 30.3%) followed by hands (2340, 29.5%), and limbs (upper or lower) (2272, 28.6%). 238 (3.0%) had a reaction to at least one allergen. **Table 1** summarises the frequency of sensitisation to individual rubber accelerator allergens among those who underwent patch testing. An analysis of sensitivities to thiuram mix, MBT, and mercapto mix from the local baseline series shows an overall increase in prevalence from 2005 to 2010, a subsequent decline from 2014 to 2020, and a resurgence in 2021 (**Figure 1**). Except for 2020, sensitisation to thiurams consistently exceeded that of thiazoles. Positive associations were found with hand dermatitis ($p < 0.001$), and with occupational contact dermatitis ($p = 0.032$) (**Table 2**). The most common source of allergen exposure was rubber gloves (25 of 56, 44.6%). The most common occupations with positive patch test readings were office workers (45, 25.3%), mechanics (26, 14.6%) and healthcare workers (22, 12.4%)

Conclusion:

The rates of allergic contact dermatitis to rubber accelerators in this study were comparable to those published worldwide. Rubber gloves remain the predominant source of exposure to rubber accelerators, particularly among healthcare workers, underscoring the importance of increased awareness and the need for alternative glove materials to mitigate the risk of allergic contact dermatitis.

Table 1. Frequency of sensitisation to rubber accelerator allergens among patients who underwent patch testing

Allergen	Positive reactions		Late reactions		Present relevance		Past/present relevance	
MBT (Mercaptobenzothiazole)	47 of 7918	0.59%	2 of 47	4.26%	8 of 47	17.02%	12 of 47	25.53%
Mercapto mix	29 of 7894	0.37%	2 of 29	6.90%	6 of 29	20.69%	8 of 29	27.59%
Mercapto mix breakdown	-	-	-	-	-	-	-	-
CBS (N-Cyclohexylbenzothiazyl Sulphenamide)	0 of 0	-	-	-	-	-	-	-
MBTS (Dibenzothiazyl Disulfide)	0 of 0	-	-	-	-	-	-	-
MOR (Morpholinylmercapto Benzothiazole)	0 of 0	-	-	-	-	-	-	-
Thiuram mix	175 of 7916	2.21%	9 of 175	5.14%	24 of 175	13.71%	40 of 175	22.86%
Thiuram mix breakdown	-	-	-	-	-	-	-	-
PTD (Dipentamethylenethiuram Disulfide)	1 of 6	16.67%	0 of 1	0.00%	0 of 1	0%	0 of 1	0%
TETD (Tetraethylthiuram Disulfide)	1 of 5	20.00%	1 of 1	100.00%	1 of 1	100.00%	1 of 1	100.00%
TMTD (Tetramethylthiuram Disulfide)	2 of 6	33.33%	1 of 2	50.00%	1 of 2	50.00%	1 of 2	50.00%
TMTM (Tetramethylthiuram Monosulfide)	3 of 5	60.00%	1 of 3	33.33%	2 of 3	66.67%	2 of 3	66.67%
Carba Mix	25 of 514	4.86%	1 of 25	4.00%	5 of 25	20.00%	6 of 25	24.00%
Carba mix breakdown	-	-	-	-	-	-	-	-
DPG (1,3 - Diphenylguanidine)	0 of 1	0.00%	-	-	-	-	-	-
ZBC (Zinc Dibutylthiocarbamate)	2 of 3	66.67%	0 of 2	0.00%	0 of 2	0%	0 of 2	0%
ZDC (Zinc Diethylthiocarbamate)	0 of 2	0.00%	-	-	-	-	-	-
Zinc Dimethylthiocarbamate (Ziram)	7 of 539	1.30%	0 of 7	0.00%	2 of 7	28.57%	2 of 7	28.57%
Thioureas	-	-	-	-	-	-	-	-
Dibutylthiourea	0 of 515	0.00%	-	-	-	-	-	-
Diethylthiourea	0 of 5466	0.00%	-	-	-	-	-	-
Diphenylthiourea	1 of 577	0.17%	0 of 1	0.00%	0 of 1	0.00%	0 of 1	0.00%
Others	-	-	-	-	-	-	-	-
Hexamethylenetetramine	4 of 955	0.42%	1 of 4	25.00%	0 of 4	0%	0 of 4	0%

All allergens diluted in petrolatum. Late positives are defined as reactions that only became positive on day 7. Late reactions, present, and past/present relevance are represented as a percentage of positive reactions.

Figure 1. The proportion of patients with positive reaction to thiuram mix, MBT and mercapto mix from the local baseline series from 2004 to 2021. Except for 2020, sensitisation to thiurams was more frequent than to thiazoles.



Table 2. Positive patch test results broken down by demographics

Demographics	n	%
Male	3272	41.2%
Occupational	299	3.8%
Age >40	3724	46.9%
Hand involvement	2340	29.5%
Leg involvement	1966	24.8%
Face involvement	2407	30.3%
Atopic	818	10.3%
Patients with reactions to at least one or more tested substances	238	3.0%





Abstract N°: 8315

chlorhexidine allergic contact dermatitis: case series and diagnostic clues

Angel Gonzalez¹, Altea Esteve Martínez¹, Elena Pérez Zafrilla¹, Daniel Blaya Imbernón¹, Andres Grau Echevarría¹, Malena Finello¹, Alba Nácher Albiach¹, Laura Giménez¹, Rodrigo Peñuelas-Leal¹, Carolina Labrandero-Hoyos¹, Esther Diez Recio¹, Violeta Zaragoza Ninet¹

¹Consorcio Hospital General Universitario de Valencia, Department of dermatology, Valencia, Spain

Introduction & Objectives:

Chlorhexidine is a biguanide used as an antiseptic. In addition to antiseptic solutions, it is found among the excipients of many cosmetic products. Although it is a generally safe compound, it is an allergen capable of developing both immediate hypersensitivity, especially IgE-mediated hypersensitivity, and delayed hypersensitivity or allergic contact dermatitis (ACD). However, the possible coexistence of both entities has been scarcely reported. Although not well established, screening for immediate hypersensitivity in patients with ACD may unmask clinically mild or inapparent but potentially serious conditions.

Materials & Methods:

We present data from a monographic skin allergy consultation in a tertiary centre, from 2018 to the present, with the study of 35 patients with CAD to chlorhexidine.

Results:

- During the last 7 years 35 patients have been diagnosed with chlorhexidine CAD; 24 were male and 11 female, with a median age at diagnosis of 7 years.
- Ten patients had an atopic background.
- The clinical form was very characteristic following a pattern of exudative eczematous plaque with vesicles and papules distributed in an aperdigonate pattern around it, sometimes misdiagnosed as herpes.
- In all patients the diagnosis was made by patch testing. A ROAT (repeated open application test) was indicated in 21 patients and was positive in 15 of them.
- Although only one patient showed immediate hypersensitivity to chlorhexidine, prick tests were performed on 25 patients and were positive in four of them. The patient with immediate hypersensitivity presented a very positive test (+++/+++), compared to the other three where the positive test was weak (+/+++).

Conclusion:

- Chlorhexidine allergy is postulated as an emerging and potentially serious entity, with potential immediate hypersensitivity in addition to delayed hypersensitivity.
- We recommend that all patients with allergic contact dermatitis to chlorhexidine be referred to allergology to rule out concomitant immediate hypersensitivity.
- The type of lesions will help us to orient the case and to broaden the differential with a herpetic infection.
- In the event of clinical suspicion, the ROAT test is very useful.

- Extreme precautions should be taken in secondary prevention, especially in patients with immediate hypersensitivity.

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**Abstract N°: 8480****Utility of Patch Test in the Patients of Facial Melanosis**Swagata Tambe¹, Kirti Jangid¹¹Seth V.C. Gandhi & M.A. Vora Municipal General Hospital Rajawadi Ghatkopar East, Dermatology Venereology Leprosy, Mumbai, India**Introduction & Objectives:**

Facial melanosis is a common presentation in outpatient department and is multifactorial in origin. Face being a common area exposed to various allergens, environmental agents and sun exposure diagnosis of facial melanosis is a challenge. Patch test is diagnostic test that can identify the common allergens that are responsible for contact dermatitis.

In present study we have evaluated the role of patch testing with Indian standard series and cosmetic series in patients of facial melanosis.

Materials & Methods: This is a retrospective analysis of contact dermatitis data was evaluated from April 2021 to April 2025 and patients presented with facial hyperpigmentation with available records of detailed history, clinical photographs and patch test results were included.** Demographic profile of these patients was studied along other features like clinical presentation, duration of disease, predisposing factors, use of common products on the face, occupation, and common allergens positive in patch test. Data was entered in Microsoft excel and qualitative analysis was performed.

Results: Total 177 patients were studied. Most of the patients were in 3rd and 5th decade and M: F ratio of 1: 1.32. Most of the patient were working as professionals (51.2%) followed by housewives (37.6%). 83% of patients had gradual onset of disease with 33.6% patients had duration of disease between 1 to 5 years. Suspected allergens were cosmetics In 37.85% of patients followed by unknown allergens in 20.90 %. Melasma (43%) and melasma with TSDF (23%) were the most common causes of facial melanosis followed by lichen planus pigmentosus (22%) and pigmented contact dermatitis (11%). Patch test results were positive in 25.42% of patients. Fragrance mix (22.24%), nickel (19.44%), thiomersal and PPD were the most common allergens tested positive. 84.44% patients showed single allergen positivity while 15.55% of patients showed multiple allergen positivity. Allergen positivity was commonly seen in patients of Pigmented contact dermatitis and Lichen planus pigmentosus.

Conclusion: Our study highlights the prevalence of contact dermatitis in patients of facial melanosis and also the utility of patch test in the diagnosis of facial melanosis considering the increasing use of cosmetics and chemicals in day to day life.



**Abstract N°: 8527****para-tertiary-butylphenol formaldehyde allergy across generations : an evolving spectrum**maryem mhiri¹, Maha Lahouel¹, Ghariani Nejet¹, Denguezli Mohamed¹¹Hospital F. Hached, Sousse, Tunisia

Introduction & Objectives: ** Para-tertiary-butylphenol formaldehyde resin (PTBD) is a ubiquitous adhesive known for its robust bonding properties, rapid setting time, and resistance to high temperatures. Despite its industrial utility, PTBD is a well-documented sensitizer and a frequent cause of allergic contact dermatitis. This study aim to highlight intriguing clinical manifestations and evolving exposure sources of PTBD sensitization.

Materials & Methods:

Herein, we present two illustrative cases of PTBD sensitization across different age groups.

Case 1: A 78-year-old retired civil engineer presented with a 30-year history of chronic hand and foot eczema, partially responsive to topical corticosteroids. Over the past year, he reported progressive pruritus and lichenified plaques with hypopigmented areas on his upper back, forearms, and lower limbs. Systemic causes of pruritus were first excluded. Patch testing revealed positive reactions to chromium (+) and PTBD (++). Further history uncovered prolonged contact with artisanal leather shoes and recent exposure to his new car's leather seatbacks.

Case 2: A 17-year-old female with a family history of atopy presented with recurrent hand eczema. Despite the absence of active eczema during examination, we noted nail dystrophy, characterized by Beau's lines. Her history revealed cyclical use of press-on nails and nail polish, which she intermittently discontinued due to an islamic religious belief that nail polish invalidates ablutions (wudu). Patch testing demonstrated reactivity to PTBD (+++) and nickel (++). Symptoms resolved upon cessation of press-on nails use, implicating PTBD-containing nail adhesives as the culprit.

Results:

These cases demonstrate the evolving spectrum of PTBD allergy, transitioning from occupational settings to diverse consumer-related sources. While PTBD's association with leather adhesives is well-established among shoemakers since the 1950s, its presence in automotive interiors and cosmetic nail products, as seen in our cases, reflects broader industrial applications. The first patient's chronic, leukodermic lesions align with prior reports of prolonged PTBD exposure, suggesting a potential role in persistent post-inflammatory dyspigmentation. The second case reveals a novel source of sensitization, which is press-on nails. PTBD is a common component in nail glues and acrylic adhesives, yet its role in periungual eczema and nail dystrophy, presented as beau's lines in our patient, is underrecognized. This case emphasizes the growing relevance of cosmetic-related PTBD allergy, particularly in adolescents. Such clinical heterogeneity, underscores PTBD's diagnostic challenge, complicating diagnosis without patch-testing. Notably, PTBD's exclusion from the American baseline patch-test series may contribute to underdiagnosis, particularly in non-occupational cases. Emerging culprits like medical adhesives, sports equipment, and beauty products, further complicate the diagnostic puzzle, necessitating heightened clinical suspicion and tailored patch-test protocols.

Conclusion:

PTBD allergy is transitioning from an occupational to a consumer-grade concern, driven by the persistence of its ubiquity in emerging uses. Future research should quantify PTBD prevalence in modern adhesives, particularly in

cosmetic use, and assess the efficacy of alternative formulations to decrease allergic risk.

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Abstract N°: 8833

Bridging the Gap: Sustaining Careers in Nail Technology Despite Occupational Acrylate Allergy – A Practical Approach Informed by In Vivo Glove Research

Faheem Latheef¹

¹Chapel Allerton Hospital, The Leeds Centre for Dermatology, Leeds Teaching Hospitals NHS Trust, Chapel Allerton Hospital, Leeds, UK, leeds, United Kingdom

Introduction: Occupational acrylate allergy is a growing concern, particularly among nail technicians who experience persistent hand dermatitis due to exposure to (meth)acrylates in gels, shellacs, and acrylic systems. This poses a challenge to both clinical management and patient livelihoods, as complete allergen avoidance often conflicts with occupational demands.

Objective: To describe a case demonstrating an innovative and practical management approach that enabled continued occupational engagement despite significant sensitisation to acrylates, using evidence-informed modifications based on glove permeability research.

Methods: A 35-year-old nail technician presented with a 2-year history of worsening hand dermatitis. Symptoms included fissuring, pain, and erythema over the fingers and dorsum of hands. Patch testing confirmed strong reactions to 2-hydroxyethyl methacrylate, ethyleneglycol dimethacrylate, 2-hydroxyethyl acrylate, and triethyleneglycol diacrylate. Given her limited alternative employment options, the patient declined full allergen avoidance.

Drawing on findings from an in vivo glove efficacy study (Ursberg et al., *Contact Dermatitis*, 2016), a modified regimen was implemented:

- Acute symptoms managed with a short course of systemic corticosteroids.
- Double-gloving with nitrile gloves and limiting client exposure to <20 minutes.
- Strict hand hygiene and workspace decontamination between clients.

Results: The patient's symptoms resolved and were kept under control with this regimen. She continued working as a nail technician for three years without significant flare-ups, indicating clinical and occupational success.

Conclusion: This case highlights the importance of collaborative care and adapting evidence-based research into practical, patient-centred strategies. In scenarios where strict avoidance is not feasible, personalised occupational modifications can empower patients to manage their condition while maintaining their livelihoods. This approach may serve as a model for managing other occupational dermatoses where allergen exposure is difficult to eliminate.

References: Ursberg et al. *Contact Dermatitis*. 2016 Jul;75(1):62-5.

