SCREENING FOR PPD ALLERGY -- SAFE BUT EFFECTIVE

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Background: Paraphenylenediamine (PPD, hair dye) is a frequent allergen that forms part of most standard patch test series; however, when tested at standard strength (1%WSP), it may cause severe blistering reactions in highly sensitised individuals. Many units therefore test to weaker concentrations, (commonly 0.2% or less) as an alternative method, in the first instance.

Objective: To evaluate a new screening method for PPD allergy using one hour only application of PPD 1% WSP and compare it to our previously used method of using 0.2%.
Methods: 10 patients with a history highly suggestive of PPD allergy were recruited prospectively. PPD1% was applied for one hour then removed. Patients also had PPD 0.2% applied and removed on day 2.

Results: On day two, 8 out of the 10 patients had 1+ reaction to the one hour application (the remaining 2 had 2+ reaction) vs 8 negative reactions for the 0.2% (and two with 1+ reaction). On day four, 9 out of 10 patients had 2+ reaction to the one hour application and only one had 3+ reaction. Whilst 5 patients continued to be negative for the 0.2% PPD and the other 5 had 1+ reaction.

Conclusion: PPD1% application for one hour is a safe and reliable alternative to standard patch testing for PPD and it is also more sensitive compared to the commonly used alternative of dilute PPD.

THE EFFECT OF TOPICAL VIRGIN COCONUT OIL ON SCORAD, TRANSEPIDERMAL WATER LOSS AND SKIN CAPACITANCE IN MILD TO MODERATE PEDIATRIC ATOPIC DERMATITIS: A RANDOMIZED, DOUBLE-BLIND CLINICAL TRIAL

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Background: Atopic dermatitis (AD) is characterized by skin barrier defects and cutaneous inflammation. Virgin coconut oil (VCO) decreases transepidermal water loss (TEWL), and has emollient, anti-inflammatory and anti-bacterial properties.

Objectives: To determine the effect of VCO versus mineral oil on SCORing Atopic Dermatitis (SCORAD), TEWL and skin capacitance in mild to moderate pediatric AD.

Methodology : Approval was obtained from the Institutional Review Board prior to starting the trial. VCO or mineral oil was applied twice daily for 8 weeks. SCORAD, TEWL, skin capacitance and adverse effects were determined every visit. A change in SCORAD ≥ 30% but < 75% was considered moderate improvement, while a change ≥ 75% was considered excellent.

Results: 132 patients were recruited, 117 were included and 101 completed the study. VCO was superior in all outcomes, with improvement in 93% of patients (46% with excellent response), while 53% of patients improved with mineral oil (19% considered excellent). Treatment success is 85.44% more likely with VCO (RRR 0.8544 95% CI 0.5232–1.1401). Adverse effects were not statistically significant.

Conclusion*:* Among pediatric patients diagnosed with mild to moderate atopic dermatitis, topical VCO application for eight weeks was superior to mineral oil based on subjective and objective criteria for treatment success.

PATCH TESTING IN AUTOIMMUNE PROGESTERONE DERMATITIS: A CASE REPORT

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Introduction**:** Autoimmune progesterone dermatitis is a cyclical polymorphous and pruritic dermatosis that affects women of childbearing age. It is characterized by flares during the luteal phase of the menstrual cycle. Hypersensitivity to progesterone may be demonstrated by provocative challenge with intradermal or intramuscular progesterone, or circulating antibodies to progesterone. We present a 28 year old female patient in whom patch testing proved beneficial to diagnosis autoimmune progesterone dermatitis.

Methods and Results**:** Lesional biopsies for H&E found a subepidermal blister with neutrophils; direct immunofluorescence was negative. Patch testing was performed with Progesterone 10% and 30% in petrolatum on the back (uninvolved skin), and in duplicate on the left lumbosacral area (usually involved skin). Results at 96 hours found 2+ reactions at the left lumbosacral area, but negative reactions on the back; clinically, her eruption had significantly flared. Our patient was schedule for intradermal progesterone testing on several occasions, but failed to attend her appointments. She improved by 25% when treated with Diane-35, and by a further 25% when this was taken continuously.

Conclusion**:** Patch testing was useful to diagnose autoimmune progesterone dermatitis in our patient. It was critical to test progesterone on usually involved skin; consistent with a pattern of a fixed-drug reaction.

TH9 LYMPHOCYTES CONTRIBUTE TO HUMAN ALLERGIC CONTACT DERMATITIS.

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Background: The Th9 lymphocyte subset and its associated cytokine, IL-9, have been implicated in the pathophysiology of allergic asthma, and promote Th2 pathophysiology.

Objective: Investigate how Th9 are involved in human allergic contact dermatitis(ACD) to nickel and other contact allergens.

Methods: Skin biopsy specimens and PBMC were obtained from seven non-atopic, nickel patch-test-positive patients. Human studies are approved by UMB IRB.

Results: The mean relative gene expression of IL-9, and the Th9-associated transcription factor PU.1 were elevated at similar levels as other genes associated with ACD(IFN-ɣ, IL-4 and IL-17A) when compared to control paired skin. IL-9 gene expression significantly correlated with CD3Ɛ ($R=0.810$, $p<0.02$), IL-4($R=0.88$, $p<0.007$), PU.1($R=0.81$, $p<0.009$) and eotaxin($R=0.95$, $p<0.04$), but not with IFN-? or IL-17A. Immunohistochemistry of ACD biopsies showed an average of 4% of T-cells to be positive for PU.1 in the inflammatory infiltrate of the epidermis and dermis. Allergen-specific lymphocyte responses from three patients with nickel allergy have a dose-response production of IL-9 in conjunction with IFN-ɣ, IL-4 and IL-2. There was no measureable cytokine production in response to a non-allergic metal salt. Blocking studies reveal that this response depends on presence of IL-9 and functional MHCII presentation.

Conclusions: Th9 lymphocytes and associated cytokines contribute to the pathophysiology of ACD.

P-PHENYLENEDIAMINE (PPD) AND POTENT SENSITIZERS IN CONSUMER HAIR DYE PRODUCTS IN THE UNITED STATES

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Background: Hair dyes are an important source of allergen exposure and contribute to allergic contact dermatitis (ACD) in consumers and hairdressers. p-Phenylenediamine (PPD) is a well-known sensitizer often found in coloring products.

Objectives: Evaluate oxidative hair dye products available to consumers in the United States for the presence of skin sensitizers and to compare the results to similar studies conducted in Europe.

Methods: Ingredient labels of 107 hair dyes from 10 major brands were examined and used to assess prevalence of known skin sensitizers.

Results: 106 of 107 (99%) of products contained 1 or more sensitizers. The average product contained 6 sensitizers (min: 0; max:11). PPD was found in 83 products (78%). Other sensitizers with high frequency included: Resorcinol (89%), m-Aminophenol (75%), and p-Aminophenol (60%).

Conclusions: Sensitizing allergens are almost universally included in hair dyes investigated in the US. While PPD is a common allergen, Resorcinol and m-Aminophenol were found more frequently; 33 other sensitizers were noted. Clinicians should consider other allergens in addition to PPD when evaluating patients with head ACD.

ALLERGIC CONTACT DERMATITIS TO LOCAL ANAESTHETICS: REVIEW OF DATA FROM 35 REACTIVE PATIENTS AND CLINICAL IMPLICATIONS

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Delayed type of hypersensitivity to many commonly utilized local anaesthetics is not that rare amidst patients with clinical manifestations of contact dermatitis presenting for patch testing. This is felt to be largely due to exposure in non-prescription preparations, and is of particular concern in the elderly who are high users, and who at the same time begin to require local anaesthesia on more frequent basis for various medical procedures.

Here we present the data from our Contact Dermatitis Clinic from January 2009 to July 2012 on 35 patients who are patch test positive to local anaesthetics. The overall prevalence of allergic contact dermatitis to common local anaesthetics was 2.3% amongst the 1,522 patient in the database. Benzocaine was the most frequent, comprising 45.7% of the positive patch tests. However, lidocaine comprised a greater proportion of the reactions than anticipated, at 28.6%. The proportion of patients who are patch test positive to local anaesthetics and who will truly have peri-operative problems with intra-dermal administration of ubiquitously used amide anaesthetics needs to be established. Likewise, there is no clear data on the clinically significant cross-reactivity between widely available and sensitizing ester topical anaesthetic – benzocaine – and the injectable amide anaesthetic of choice – lidocaine. We intend to examine these queries by challenging the patients who have tested positive to local anaesthetics with intra-dermal injections of lidocaine and assessing for the development of delayed type of hypersensitivity reaction.

ACUTE GENERALIZED EXANTHEMATOUS PUSTULOSIS CAUSED BY ATARAX® IN A SENSITIZED PATIENT

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A 48 year old lady developed an acute generalized exanthematous pustulosis (AGEP) traced to the use of hydroxyzine hydrochloride (Atarax®), a first-generation antihistamine. This was confirmed by a positive +3 patch test to hydroxyzine hydrochloride. The reactive patch test site was biopsied and AGEP was confirmed. She was negative to ethylenediamine and Kenacomb® ointment which can cross-react with hydroxyzine. We will discuss the key role of patch testing in drug reactions such as AGEP.

CORRELATION BETWEEN BODY PIERCING AND METAL SENSITIVITY: NORTH AMERICAN CONTACT DERMATITIS GROUP DATA 2007-2010

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Objective: To examine the association between piercing and sensitivity to metals (nickel, cobalt, and chromate) using North American Contact Dermatitis Group (NACDG) data 2007-2010.

Method: Retrospective, cross-sectional analysis.

Results**:** Of the 9,388 patients, 41.6% (3,907) had no piercings, 1.3% (131) had 1 piercing, 42.5% (3987) had 2 piercings, 9.9% (934) had 3-4 piercings, and 4.6% (429) had $\geq$5 piercings. Overall, 1651 (17.7%) had a positive reaction to nickel; nickel sensitivity was statistically associated with piercing (RR 2.52, 95% CI 2.26, 2.81; p<.0001) and sensitivity rate increased with number of piercings (% of patients: # of piercings as follows - 9.4%:0; 16.0%:1; 22.6%:2; 25.1%:3-4;

32.4%:≥5). Overall, 685 (7.3%) had a positive reaction to cobalt; cobalt sensitivity was statistically associated with piercing (RR 1.63, 95% CI 1.40, 1.91; p<.0001) and sensitivity rate increased with number of piercings (% of patients: # of piercings as follows - 5.3%:0; 7.6%:1; 8.2%:2; 9.5%:3-4; 11.7%: ≥5). Overall, 306 (3.26%) had a positive reaction to chromate; chromate sensitivity was negatively associated with piercing (RR 0.60, 95% CI 0.48, 0.75; p<.0001). Chromate sensitivity was ≤4.3% in all piercing groups.

Conclusions**:** Piercing was statistically associated with higher rates of sensitivity to nickel and cobalt. This relationship was dose dependent; as the number of piercings increased, the rate of sensitivity to nickel and cobalt increased. Chromate sensitivity was negatively associated with piercing.

CAVEOLIN-1 MEDIATES VASCULAR PERMEABILITY IN ACUTE IRRITANT CONTACT DERMATITIS

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Irritant contact dermatitis (ICD) is a non-allergic reaction to topical exposure of a noxious substance. This direct chemical damage to the skin is characterized by the release of inflammatory mediators leading to erythema, edema, and scaling. ICD is particularly prevalent in industrialized countries where it may account for ~30% of work related illnesses. No readily available diagnostic test exists for ICD. Diagnosis relies on clinical presentation and exclusion of other causes of the dermatitis. The molecular pathogenesis of acute events in ICD remains largely unclear. In this study we have investigated the role of caveolin-1 in ICD *in vivo.* Here we report that caveolin-1 mediates vascular permeability in response to croton oil, a model topical irritant. We demonstrate that the decreased edematous response in the absence of caveolin-1 is associated with impaired activation of ERK1/2, a member of the MAP kinase pathway. These results suggest that caveolin-1 and MAP kinase signaling play an important role in the pathogenesis of ICD *in vivo*.

**Animal work was performed as per Institutional Animal Care and Use Committee (IACUC) protocol.*

NICKEL RELEASE FROM COMMERCIAL RAZOR BLADES AND CLINICAL SIGNIFICANCE PERTAINING TO ALLERGIC CONTACT DERMATITIS

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Background**:** Nickel is the most common allergen identified in patch test patients. Several alloys of stainless steel have the potential to release and transfer nickel by contact. Commercial razor blades are made of stainless steel; however, their clinical relevance to allergic contact dermatitis (ACD) is undocumented. Spot testing a diverse sample of razor blades will provide data to assess relevance in ACD.

Methods**:** Dimethylglyoxime (DMG) nickel spot test was used to identify blades releasing nickel. Blades were tested in new and used condition. Blades were also tested dry and after soaking 30 minutes in synthetic sweat.

Results**:** All razors regardless of use were negative after a dry DMG nickel spot test. All 14 razors in new condition were positive after soaking in synthetic sweat. Following sweat soak, 11 of 14 razors in used condition were negative or only faintly positive.

Conclusions**:** Under the right conditions, razor blades will release nickel. However, the conditions required fall outside the normal scope of behavior for the majority of patients. The incidence of nickel release is statistically significant and more common in new blades. It appears that nickel is depleted with use. As with most suspected allergens, clinical relevance of patch test results must largely be determined by the patient's history and physical exam.

SYSTEMIC CONTACT DERMATITIS: TWO INTERESTING CASES OF SYSTEMIC ERUPTIONS FOLLOWING EXPOSURE TO DRUGS CLIOQUINOL AND METRONIDAZOLE

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We describe two cases of systemic eruptions following exposure to drugs Clioquinol and Metronidazole. The first case is of a 3 year-old female child, otherwise well, who was prescribed Clioquinol/Hydrocortisone combination cream by her pediatrician for burning in the urogenital area. Following two days of topical therapy, she developed the rapid onset of a painful, erythematous, dermatitic eruption around her neck which then spread to involve her axillae, antecubital fossae, groin and perioral area. A diagnosis systemic contact dermatitis to topical clioquinol was made. Patch testing was not performed because the parents did not agree to it. The second case is of a 45-year-old female with recalcitrant facial Rosacea. She was patch test positive to 1% metronidazole in white petrolatum. One year later she developed an exudative dermatitis on her cheeks and a maculopapular, erythematous and edematous eruption on her flexures, chest and legs three days after starting on oral metronidazole for the first time for a

gastrointestinal infection. Her facial eruption is recall dermatitis and her diffuse eruption could be a form of systemic contact dermatitis or a more typical drug eruption. Systemic contact dermatitis will be reviewed and the two cases discussed.

MANGANESE OXIDATION STATE AS A CAUSE OF IRRITANT PATCH TEST REACTIONS

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Background: Patch testing is the gold standard for evaluating allergic contact dermatitis. However, irritant reactions, especially to certain metals with specific oxidation states, are commonly noted.

Objective: To evaluate the role of oxidation states in irritant reactions to metals.
Methods: This study was approved by the Institutional Review Board of University of Maryland. Mn(II), Mn (III), and Mn (VI) preparations (2.5% in petrolatum) were applied under Finn chambers. The sites were evaluated and scored at 48 and 72 hours.

Results: Out of 58 patients, 24 (41.4%) developed an irritant reaction to Mn(II), compared to two (3.5%) for both Mn(III) and Mn(VI) ($p = 0.0001$). There were no allergic reactions. Reactions to Mn(II) were more frequent in Caucasians ($p=0.030$) and those with irritant reactions to other metals ($p=0.007$). Age, atopy, smoking, gender, and suspected metal allergy were not correlated with irritant reactions.

Conclusions: Mn(II) causes higher rates of irritant reactions on patch testing than does Mn(III) or Mn(VI), especially in Caucasians and patients with concomitant metal irritant reactions. The current Mn(II) concentration used for patch testing is above the irritation threshold and should be reduced.

LACK OF ASSOCIATION BETWEEN DUST MITE SENSITIVITY AND ATOPIC DERMATITIS

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Background**:** Dust mites (DM) have previously been shown to play a role in type I hypersensitivity-mediated respiratory allergy. However, there are conflicting studies about irritant and immune reactions to DM in atopic dermatitis (AD). Further, patch testing to DM in atopic subjects is poorly characterized and not standardized.

Methods**:** 323 subjects were patch tested using DM extract (0.01, 0.1, 1, 10, 20% in petrolatum, Chemotechnique) and/or 200 IR (index of reactivity) in petrolatum (Stallergenes). Patch tests were read at 48 and 72 to 168 hours. Subjects were recruited in the patch testing clinic from 2002 – 2004. Approval for this study was obtained from the Institutional review board.

Results**:** (1) The number of positive (+, ++ and +++) and doubtful reactions to DM extract increased with higher concentrations. (2) Positive reactions to DM had a morphological appearance characterized by numerous discrete erythematous papules and rarely papulovesicles. Positive reactions to DM 200IR were infrequent and all weak reactions, similar to DM 0.01%. (3) There was no association of DM positivity with demographics and personal history of atopic dermatitis, asthma or hay fever. (4) There was no association of DM positivity with the clinical diagnosis / phenotype.

Conclusions**:** Patch-test positivity to DM extract is dose dependent and does not appear to be related to demographics, history of atopic dermatitis or other atopic disorders or clinical presentation.

ALLERGY, GRANULOMATOUS REACTION, AND SYSTEMIC HYPERSENSITIVITY ASSOCIATED WITH MICRONEEDLE THERAPY FOR SKIN REJUVENATION

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Microneedle therapy system includes skin puncture with multiple micro sized needles to promote collagen and elastin deposition or deliver medications and vaccines. The procedure is frequently done after application of topical emollients, thus injecting small amounts of the emollient into the dermis. Despite rapid increase in the use of microneedle therapy system in office settings and cosmetic practices, there is little data about the safety of this procedure, or safety of the emollients injected with it.

We present two female patients, 46 and 69 years old, who developed persistent granulomatous reactions on their faces (1 year in duration) due to microinjection of the branded topical moisturizer, VitaC serum®, performed with a Dermapen®. One patient had previously developed an allergy to the moisturizer before it was used with the microneedle therapy. The other patient was sensitized to the VitaC serum from the microinjection -- and thus didn't react for weeks. When the second patient developed her facial reaction, she also developed fevers, arthralgias, and erythema nodosum for one month. Both patients demonstrated a granulomatous reaction by biopsy, and both were patch test positive to VitaC serum®.

Application of various topical products prior to microneedling can introduce immunogenic particles into dermis and potentiate local or systemic hypersensitivity reactions.

ADDITIVE VALUE OF PATCH TESTING CUSTOM ISOCYANATE MATERIALS FROM THE WORKPLACE AT THE OCCUPATIONAL DISEASE SPECIALTY CLINIC IN TORONTO

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Background: Patch testing with standard trays is currently used to investigate suspected cases of isocyanate induced ACD. In some facilities, these trays are supplemented with custom isocyanate preparations.

Objective: To determine whether added value exists in patch testing patients to custom isocyanate preparations in suspected cases of ACD.

Method: We performed a retrospective analysis of 11 patients referred to our clinic between January 2003 and March 2011 who had custom testing with isocyanate materials from their workplace in addition to standard trays of allergens.

Results: 3 patients of 11 (27%) showed an added value in testing to custom isocyanate allergens. Of these three, 1 had a reaction that reinforced positive reactions to the standard isocyanate tray, while the other 2 (18%) had no reactions to the commercially available allergens.

Conclusion: Due to the high proportion of reactions (27%), we recommend the use of custom testing to workplace isocyanate products as a supplement to standard patch testing procedures.

OCCUPATIONAL CONTACT DERMATITIS IN THE PHARMACEUTICAL INDUSTRY IN CORK, IRELAND

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In the region of Cork city and county, there are over 20 pharmaceutical plants. The department of Dermatology at the South Infirmary-Victoria Hospital is the regional centre for patch testing. We reviewed all of the patients referred for patch testing from these pharmaceutical plants over a fifteen-year period.

Every patient was interviewed and examined by the same consultant dermatologist. Demographic and clinical details were carefully recorded and kept in a secure database. Patch

testing was carried out with the BSCA standard series and also the patientsâ€™ work materials. Allergens were applied using Finn Chambers? and secured with Tegaderm?.

We found 24 cases of allergy to pharmaceutical products or intermediates, 6 patients who were allergic to their personal protective equipment and 13 cases of irritant contact dermatitis(ICD). The most common primary site of allergic contact dermatitis (ACD) was the face (59%), the hands being affected first in the remaining 41%. Surprisingly, atopy was seen more commonly seen in patients with ACD (23%) than ICD (6%) Pharmaceutical allergens detected included imatinib, fluvastatin, simvastatin, atorvastatin, abacavir, ziprosidone, ranitidine, olanzapine, and pirmenol hydrochloride.

EXPLORING THE ASSOCIATION BETWEEN SEVERITY AND FUNCTION IN WORKERS WITH HAND DERMATITIS

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Background: Impact of hand dermatitis is often assessed by severity. There has been less attention paid to objective functional measures.

Objective: To explore the association between various severity ratings and objective functional assessment in workers with hand dermatitis.

Method: Severity was assessed using several measures including the AMA rating for clinical severity, physician score of severity and patient self-rating of severity. Functional ability was assessed with range of motion (tuck position), grip strength and the Minnesota Rate of Manipulation Test. Associations between the severity and functional measures were explored with correlation analyses.

Results: Of the various severity ratings, the patient's rating of severity and the physician score of severity were the most highly correlated. When the physician rating was compared with the functional outcomes, impairment of tuck and manipulation were correlated but grip strength was not. When the AMA clinical severity score was used, grip strength was significantly correlated.

Conclusion: Objective tests of function add an important component to evaluation of workers with hand dermatitis. Clinical severity scores may not be the best method to capture functional impairment.

USE OF A WORKPLACE PRESCRIPTION TO FACILITATE RETURN TO WORK FOR WORKERS WITH OCCUPATIONAL SKIN DISEASE

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Background: Staying or returning to work is a challenge for some workers with occupational contact dermatitis. Changes to the workplace may be necessary to ensure a safe workplace and successful return to work.

Objective**:** Following the development of a workplace prescription (WP), we undertook a feasibility study to ascertain the use and impact of the WP.

Method: Patients with suspected occupational skin diseases who were at work or returning to work were enrolled at their last visit following patch testing. Patients were given recommendations about their skin disease concerning return to work and randomized in two groups:

1. WP group received the WP and verbal instructions
2. Control group received verbal instructions.

Follow-up phone calls with a questionnaire were performed one month after the visit.

Results: A total of 50 patients (28 in WP group and 22 in control group) were enrolled between February and August 2012. The follow-up was completed for 41 patients (82%). Only 17 (77%) out of the 22 patients that received the WP reported receiving it. Of those 17 patients, 8 rated the WP as very useful, 7 as somewhat useful, 1 as not very useful. Nine of them (53%) brought the prescription to their workplace.

Conclusions**:** The WP could be a useful tool to enhance the return to work process for workers with occupational dermatoses and other conditions.

CONTACT SENSITIZATIONS IN POLISH PATIENTS WITH CHRONIC DERMATITIS: RESULTS OF THE KRAK MULTI-CENTRE STUDY USING PATCH TESTS TO THE NEW POLISH BASELINE SERIES

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Background: The KRAK Study is a multi-centre patch test study utilizing the new Polish Baseline Series (introduced in June 2010), which consists of European Baseline Series supplemented with two sensitizers frequent and relevant in Poland - palladium and propolis.

Objectives: To analyse first KRAK Study patch test results with the new Polish Baseline Series.
Methods: Eleven participating dermatology and allergy centres submitted data of patients tested to the Polish Baseline Series (Chemotechnique Diagnostics) from June 2010 until October 2011.

Results: Altogether, 624 patients (475 women and 149 men aged 0 to 85, median 36 years) were patch tested in participating centres. At least one positive reaction was recorded in 370 patients (59.3%). In 255 patients (40.9%), at least one positive test was deemed clinically relevant. Higher frequencies of contact allergy were seen in younger groups: 62.8% in children and adolescents, 59.2% in young adults, and 57.9% among older adults, these differences were not statistically significant (p=0.667). The same tendency was seen with respect to clinically relevant positivities: 45.1% in children and adolescents, 41.6% in young adults, and 38.3% among older adults (p=0.447). In the results pooled for all tested groups, the top 10 sensitizers were nickel (33.5% positive; 24.7% clinically relevant), cobalt (16.2% and 8.3%, respectively), chromium (14.7%; 7.1%), palladium (11.4%; 4.2%), paraphenylenediamine (7.4%; 3.8%), balsam of Peru (6.6%; 2.7%), fragrance mix I (6.3%; 3.4%), propolis (4.6%; 1.4%), fragrance mix II (3.4%; 1.6%), neomycin (3.4%; 1.0%), wool alcohols (2.6%; 1.4%), colophonium (2.4%; 1.6%), lyral (2.4%; 1.1%) MI/MCI 0.01% (2.1%; 1.6%), paraben mix and primin (each 1.9%; 1.1%). Noteworthy, the two additions to the Polish Baseline Series â€“ palladium and propolis occupied ranks 4 and 8, respectively. Also interestingly, 10 patients (1.6%) reacted to palladium, but not nickel, suggesting that under nowadays environmental exposures palladium is not just a mere cross-reactivity to nickel as commonly believed.

Conclusions: Polish patients are most frequently sensitized to metals and cosmetic ingredients. Our results confirm that palladium and propolis are frequent sensitizers and are important additions to the baseline patch test series. Natural remedies containing balsam of Peru and propolis should be avoided because of the high sensitization rates.

PREVALENCE OF CONTACT ALLERGY IN THE EUROPEAN GENERAL POPULATION

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Background: Population-based studies on contact allergy are missing.

Objectives: To obtain reliable estimates of the prevalence rates of skin diseases and contact allergy to common allergens in the general population.

Methods: Random sample from the general population, aged 18 to 74 years, was selected in 6 European areas (Sweden, The Netherlands, East-Germany, West-Germany, Italy, Portugal), 12,377 subjects were interviewed and a random sample (n=3,119) patch tested to True test panel 1, 2 and 3. A positive patch test reaction (at least a â€œ+â€ reaction) is considered as a proxy for contact allergy.

Results: The reported lifetime prevalence rates (age-standardized) of diagnoses confirmed by a physician were as follows: contact dermatitis n=1025 (8.4%; 95%CI 8.0-8.8), atopic dermatitis n=870 (7.0%; 95% CI 6.7-7.3), other types of eczema n=1642 (13.4%; 95% CI 12.9-13.6). In total, 18.9% of all patch test subjects had at least one positive reaction to an allergen of True test panel 1 (men 9.0%, women 27.0%), 8.8% against at least one allergen of panel 2, and 1.0% at least one allergen of panel 3. At least one reaction against an allergen of True test panel 1, 2, or 3 was seen in 25.3% (men 15.7%, women 33.2%). The highest age-standardized prevalence rates (<1%) were found for Nickel sulfate (14.6%; 95% CI 13.7-15.5), Thiomersal (5.1%; 95% CI 4.5-5.7), Cobalt chloride (2.2%; 95% CI 1.8-2.6), and p-tert-Butylfenolformaldehyderesin (1.3%; 95% CI 1.0-1.6)

Conclusions: Contact allergy is frequent in the general population and needs a carefully interpretation of its relevance.

THOUGHTS ON STANDARDIZATION OF MULTICENTER PATCH TEST STUDIES

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Background: Multicenter patch test studies are invaluable to follow trends in contact allergy rates and as a basis for changes (inclusion/removal) of contact sensitizers in the baseline patch test series.

Aim: To analyze and discuss possible factors of significance for standardization of multicenter patch test studies.

Results and Conclusion: Factors of significance for standardization of multicenter patch test studies include source and batch of sensitizer, patch test technique, application time, dose, occlusion time, reading, and classification system. It is important to stress the significance of discriminating between weak allergic reactions, irritant reactions and doubtful reactions. A high degree of standardization is a prerequisite for reliable and comparable patch test results between various patch test clinics.

DEVELOPMENT OF NICKEL PATCH TEST REACTIVITY IN TWO COHORTS OF UNSELECTED CHILDREN AND YOUNG ADULTS

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A positive nickel patch test is regarded a reproducible test for nickel sensitization.

Aim: To investigate the course and reproducibility of nickel tests in 2 cohorts of children (DARC cohort) and adolescents (TOACS cohort).

Method: 562 children were included and patch tested 5-6 times over 6 years. Further, 403 adolescents were patch tested twice with 15 years interval. Nickel sulphate in TRUE® test was applied. Ethical approval obtained.

Results: 26 children In the DARC cohort had positive nickel test at 12 and 18 months, and when 21 were tested again at 3 and 6 years only 2 had reproducible nickel reactions (one clinically relevant), 19 were negative. In the TOACS cohort 26 of 403 were new positives in 2010 and 7 had lost reactivity since 1995. Reproducibility was 77.4%, and the 15 year incidence rate of nickel allergy was 7%.

Conclusion**:** Only 9.5% in the DARC cohort had reproducible nickel reactivity and 90.5% were negative. The positive tests in infancy may be irritant reactions. Hence, nickel patch tests should only be performed in infants in selected cases. The TOACS cohort showed a reproducible high prevalence of nickel sensitisation 15 years after leaving primary school and most cases were clinically relevant. The high incidence rate was surprising considering the nickel regulation implemented in EU.

CONTACT URTICARIA TO NICKEL AND COBALT IN PATIENTS WHO ARE PRICK TEST POSITIVE AND PATCH TEST NEGATIVE. A SERIES OF 11 PATIENTS

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Contact urticaria to metals is well reported with case reports, but its prevalence is completely unknown. A recent survey of ACDS members (unpublished) indicate that most ACDS members believe contact urticaria to be rare, and most are not doing prick or scratch testing to evaluate for it for various reasons.

We present 11 patients with a clinical history consistent with nickel/cobalt allergy who were patch test negative to nickel sulfate (2.5 and/or 5.0% in pet.) and cobalt chloride hexahydrate (1% in pet.), but were prick test positive at 30 minutes (at least a 5mm wheal) to either the same nickel or cobalt. Prick testing with these preparations was negative in 10 controls that didn't have a history of reactions to metal jewelry/snaps, etc.

Our series would suggest that contact urticaria to nickel or cobalt is more common than generally believed, and should be thought of (and evaluated) by the contact allergist when metal allergy is considered.

CONTINUING EVALUATION OF A PATCH TEST CHECKLIST TO IMPROVE PATIENT SAFETY

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Background: There has been increasing attention to patient safety initiatives. Procedure checklists are one method being used to improve patient safety. We developed a patch test checklist which has been implemented for approximately one year in our patch test clinics.

Objective: To evaluate the educational items on a patient safety checklist through patient surveys.

Method: 50 patients returning for patch testing were surveyed. The patients were asked if they had received education related to various components of the patch test procedure, skin care advice and products they were asked to bring with them when they had their initial consultation visit. In addition, they were asked if the advice given was used and if there had been improvement in their skin condition.

Results: Over 90% responded affirmatively to the procedure related questions indicating they had received education. The items that were least likely to be recalled were reasons that would result in testing not proceeding and recommendations about clothing to be worn.

Conclusion: Results suggest good concordance between the staff notations on the patch test checklist and patients' recall of the educational components received at their initial visit.

CONTACT ALLERGY TO P-PHENYLENE DIAMINE (PPD) AND HAIR COLORANTS IN THE EUROPEAN GENERAL POPULATION

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Background: Population-based studies on contact allergy to PPD are missing.

Objectives: To assess the prevalence of contact allergy to PPD and the use and avoidance of hair colorants in the general population in different European countries.

Methods: A random sample from the general population, aged 18 to 74 years, was selected in 6 European areas (Sweden, The Netherlands, East-Germany, West-Germany, Italy, Portugal), 10,425 subjects were interviewed and a random sample (n=2,739) patch tested to PPD.

Results: In total, 5286 (50.9%) reported to have used hair colorants at least once in their lifetime (females 78%, males 20%) and 35% used hair colorants during the last 12 months. Hair colorants avoidance because of any skin problem during lifetime was reported by 624 subjects (6%). 570 subjects (5.5%) had used black henna tattoos in lifetime. The overall age-standardized prevalence of PPD positive reactions was 0.8% in both men and women, and hair colorant lifetime users and non users. However the prevalence in black henna tattoo users was 3.2% vs. 0.6% in non-users. A clinically relevant positive patch test reaction to PPD related to hair colorants (defined as lifetime avoidance of hair colorants and itchy skin rash on the scalp/face/ears during lifetime) was found in 0.1%. A strongly significant association with PPD positivity was observed for subjects who had black henna tattoos in their lifetime, with an age and gender adjusted OR of 9.33 (95% CI, 3.45-25.26).

Conclusions: Not hair colorants but black henna tattoos are an important risk factor for PPD contact allergy.

METHYLISOTIAZOLINONE BY ITSELF AS CONTACT ALLERGEN

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Methylchloroisothiazolinone/Methylisotiazolinone (MCI/MI) is a highly effective preservative. Its maximun authorized concentration is 0,0015% of a mixture in the ratio 3:1 of MCI/MI. In vitro studies showed MI to be allergenic, cytotoxic and neurotoxic nevertheless is allowed as a cosmetic preservative because is supposed to be weaker allergen than MCI. A maximum

concentration of MI in the finished cosmetic products of 100 ppm is in theory safe. Recently, MI has been suggested as an emerging contact allergen. Objective: Assess MI contact allergy

Material and Methods: 1,264 patients were consecutively patch tested during the 2010-2012 with MCI/MI 100 ppm aq and MI 0,05% (500 ppm) aq, Patch testing results were collected along with basic demographic and clinical data. Allergens were applied using Finn ChambersÂ®. Patch test exposure time was 2 days. The standard positive outcome of the patch test was defined as a morphological + to +++ reaction between day 2 (D2) and day 4 (D4) Results: Fifty five patients (4,3%) showed positive patch test at least to MCI/MI and/or MI. Twenty eight of them just to MCI/MI (2,21%). Seventeen patients (1,3%%) showed MCI/MI and MI positive patch test reaction. Ten patients (0,8%) showed just MI positive patch test. Relevance was certain in most of the cases. Conclusion: MI was by itself a relevant contact allergen. Its patch test concentration and allergeic capacity needs further investigations.

SKIN CARE PRODUCTS CONTAINING LOW CONCENTRATIONS OF FORMALDEHYDE CANNOT BE SAFELY USED IN FORMALDEHYDE-ALLERGIC PATIENTS WITH IRRITANT DERMATITIS

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Background**:** Formaldehyde is a well known sensitizer. Formaldehyde-releasers are widely used preservatives in skin care products. It has been found that formaldehyde at concentrations allowed by the European Costemetics Directiv can cause allergic contact dermatitis. However, we still lack information whether formaldehyde affects dermatitis in formaldehyde-allergic patients when exposed to lower doses of formaldehyde.

Objectives**:** To study the effects of formaldehyde on irritant dermatitis in formaldehyde-allergic patients.

Patients/Methods: 15 formaldehyde-allergic patients and a control group with 13 patients without allergy to formaldehyde and formaldehyde-releasers were included in the study. DMDM hydantoin at 3 different concentrations was added to a moisturizer preserved with phenoxyethanol. The same batch without DMDM hydantoin served as a control moisturizer. The patients performed repeated open application tests (ROAT) with these moisturizers on areas of experimentally induced sodium laurylsulfate dermatitis. The study was double-blind and randomised.

Results**:** 9 of the 15 formaldehyde-allergic patients developed dermatitis or it worsened on areas which were treated with moisturizers containing formaldehyde. No such reactions were observed for the moisturizers without formaldehyde in the formaldehyde-allergic patients ($p<0.01$) or in the control group ($p<0.001$). 6 of the 9 ROAT-positive patients were negative to DMDM hydantoin at patch testing.

Conclusions: Our results demonstrate that skin care products containing formaldehyde at low concentrations cannot be safely used by formaldehyde-allergic patients with irritant dermatitis.

CUTANEOUS DELAYED-TYPE HYPERSENSITIVITY IN PATIENT WITH ATOPIC ECZEMA,

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Background: The literature on the relationship between atopic eczema and the cutaneous delayed-type hypersensitivity response is inconclusive; however, patients with atopic dermatitis have been reported to have a higher rate of sensitization to fragrance allergens.

Objective: To compare the rates of contact sensitization to standard tray allergens among patients in our database with and without atopic dermatitis, and to assess whether atopics were more likely to be sensitized to certain classes of allergens.

Methods: A total of 2305 patients underwent patch testing between July, 1994 through June, 2012 to the North American Contact Dermatitis Groupâ€™s Standard Screening Series by one of the authors. The incidence of contact sensitization to the allergens in the Standard Series among patients with atopic dermatitis (n=297) and without atopic dermatitis (n=2008) was assessed. Statistical analysis was done using a Chi squared test with Yates' continuity correction and associated p-values were calculated.

Results: Atopic dermatitis was associated with having one or more positive patch tests. Atopic dermatitis was significantly associated with contact sensitivity to metals, including nickel, cobalt, and chromium. We found no association between atopic eczema and contact sensitization to fragrances.

Limitations: This was a retrospective study and is subject to resultant biases of such investigations. Only patients suspected of having allergic contact dermatitis were tested. Our population was somewhat geographically limited to metropolitan Kansas City.

Conclusion: Patients with atopic dermatitis are significantly more likely than non-atopics to develop contact sensitization to metal allergens and should be made aware of this.

A CASE CONTROL REVIEW OF PATCH TEST RESULTS IN PSORIASIS PATIENTS ON BIOLOGICS

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Objectives: To determine the prevalence of positive patch test results in psoriatic patients receiving biologic therapies and whether these results differ from those of psoriatic patients not on biologics.

Methods: An IRB-approved retrospective chart review was conducted for psoriatic patients who were patch tested between January 2002 to January 2012 at TMC. Patients had a history of psoriasis or psoriatic arthritis and patch testing as identified by ICD-9 codes 696.1 or 696.0 and 95044, respectively, in their hospital billing records. All patients were tested to a modified North American Contact Dermatitis Group (NACDG) standard series and a cosmetics series. Readings were performed at 48 hours and then 72-96 hours post placement. The NACDG grading system was used to grade reactions.

Results: 15 psoriatics on biologics (cases) and 16 psoriatics not on biologics (controls) were studied. The biologics used were Ustekinumab (N=7), Etanercept (N=4), Adalimumab (N=3) and Infliximab (N=1). Eighty percent (12/15) of cases had at least one positive reaction compared with 81% (13/16) controls, 67% (10/15) cases had 2+ reactions compared with 63% (10/16) controls, and 27% (4/15) cases had 3+ reactions, compared to 38% (6/16) controls. These differences were not statistically significant.

Conclusions: Biologics do not influence the ability of psoriatic patients to mount a positive patch test.

Acknowledgement: This study was funded by an ACDS clinical research grant.

ATOPY PATCH TESTS

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Background: Atopic dermatitis (AD) results from barrier dysfunction with altered immune response .Skin prick test (SPT), and serum specific IgE (sIgE) identify triggers for allergic rhinitis and urticaria, but are not specific for the delayed type hypersensitivity resulting in atopic dermatitis.

Objective: To study the correlation between APT, SPT and sIgE results for food and aeroallergens in patients with AD in our clinic, and compare prevalence of APTs in teens and adults.

Methods: Retrospective study of AD patients who were atopy patch tested and/or underwent SPT or sIgE.

Results: 62 patients (44 children, 18 teens and adults) underwent APT. Among 36 patients who also had SPT or sIgE, there was no significant discordance between SPT and sIgE to cow's milk, egg white, soy, oat, wheat, corn, birch and dust mite. However, there was some discordance between APT and SPT/sIgE with APT almost always demonstrated fewer positive results. Food APT shows higher percentages of positive results in children <3 years, whereas APT to

aeroallergens showed higher percentages of positive results in teen and adults. Positive APT with negative sIgE and/or in the same patient was uncommon but did occur.

Conclusion: The lower percentages of positive APTs compared to tests for immediate type hypersensitivity may indicate better specificity for APTs for dermatitis. Further research to standardize and validate APTs is warranted.

MEASURING THE POTENTIAL OF CONTACT ALLERGENS TO ACTIVATE INNATE IMMUNE CELLS: CREATION OF AN IL-8 REPORTER CELL LINE

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Background: Nickel directly activates innate immune cells by signaling through human TLR4. We hypothesize that all contact allergens have the intrinsic capacity to activate innate immune cells, which is critical to initiate sensitization. However the innate immune signaling pathways used by non-Nickel allergens remain unknown. To elucidate novel signaling pathways, we sought to first develop an assay system for high through-put screening, using the human cell line THP-1 as a model innate immune cell.

Objectives: (1) To measure pro-inflammatory cytokine secretion from THP-1 cells treated with a variety of contact allergens, (2) To create a THP-1 reporter cell line assay useful for high-throughput screening approaches.

Results: While secretion of TNF-a, IL-1B and IL-6 were also detected following treatment of THP-1 cells with contact allergens, IL-8 was the most sensitive indicator of activation. Based upon this data, we generated a THP-1 cell line stably transfected with a luciferase reporter under control of the IL-8 gene promoter, and characterized its ability to detect innate immune activation by a variety of contact allergens.

Conclusion: Secretion of IL-8 by the monocytic cell line THP-1 is a sensitive indicator of innate immune cell activation following exposure to contact allergens. An IL-8 reporter cell line has been created which will facilitate high-throughput screening approaches.
[Funding: CanadianDermatologyFoundation]

PREVALENCE OF NEOMYCIN ALLERGY IN SOUTHERN ALBERTA

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Abstract & Rationale: Neomycin, an aminoglycoside antibiotic, is one of the most common contact dermatitis allergens in North America. Its prevalence is estimated to be between 10-13% in North America, and it is included on the North American Standard Series for patch

testing (1). However, this data is drawn largely from American populations; in the US, neomycin is available in over-the-counter topical preparations, whereas availability is much more limited in Canada (2). Over the past fifteen years, sixteen topical products containing neomycin have been withdrawn from the market in Canada. There are currently only nine active topical products containing neomycin, all prescription drugs, and none of them are stocked at Shopper's Drugmart or at Dermatology Centre Pharmacy & Skin Care Supplies in Calgary (3; personal communication, Nov 9, 2011). It is important to evaluate whether neomycin is still a significant allergen in Canada, because if it is not, then it should be removed from the standard series in Canada to avoid the unnecessary exposure and sensitization of patients. We will be conducting an electronic chart review to quantify the prevalence of positive patch tests to neomycin sulfate in contact dermatitis patients in Calgary.

FOOD FOR THOUGHT: TARGETED BALSAM-RESTRICTED DIETS

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Background: Balsam of Peru (BOP) is a natural substance which contains a complex mixture of potential contact allergens including cinnamates, eugenol/isoeugenol, vanillin and benzoates. Patch testing can help identify allergy to specific BOP component allergens.

Objective: To investigate which specific BOP component allergens are found in each of the foods included on the BOP avoidance diet and to determine if any additional foods contain these allergens.

Methods: Online resources were utilized to identify which specific BOP constituents are in various foods.

Results: All of the foods on the BOP diet contain some but not all BOP component allergens. Additional foods are identified which contain BOP component allergens and these foods should be added to the BOP diet.

Conclusion: Based on the BOP component allergens found in each food, more targeted BOP diets are recommended for allergic patients.

THE NATURAL HISTORY OF CHRONIC ACTINIC DERMATITIS: AN ANALYSIS AT A SINGLE INSTITUTION IN THE UNITED STATES

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Background: Chronic actinic dermatitis is a photosensitivity disorder with scant epidemiologic data. Case series in Europe have previously shown that improvement or resolution of chronic actinic dermatitis occurs over time in the majority of patients. However, the natural history of chronic actinic dermatitis in patients in the United States has not been studied.

Objective: To study the natural history of chronic actinic dermatitis in patients in the United States.

Methods: We performed a retrospective chart review and telephone questionnaire after a 3 to 19 year follow-up period.

Results: Of 20 patients, 7 patients (35%) experienced resolution and an additional 11 patients (55%) experienced improvement of their chronic actinic dermatitis. The proportion of patients experiencing improvement or resolution of their chronic actinic dermatitis increased at 5, 10, and 15 years after diagnosis. Similar proportions of patients with skin types I to II and skin types III to VI experienced improvement or resolution.

Conclusions: Our study demonstrates that abnormal photosensitivity to sunlight in chronic actinic dermatitis improves or resolves over time in the majority of New York patients. The rates of improvement or resolution in our New York patients are similar to the rates in case series in Europe, despite likely patient demographic differences.

WHY WE SHOULD NOT CALL HAPTENS THE "A-NAMES"

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The use of scientifically correct terminology both shapes and reflects our understanding of the surrounding world. From immunological point of view, small molecular weight substances that cause contact allergy are haptens, not allergens.

There are major differences between these two types of agents: Haptens can penetrate through intact epidermal barrier, while allergens cannot. After entering body, allergens are instantly recognized by the immune system, while haptens are merely components for creating real antigens out of body's own proteins (as a results, there are more similarities of contact

allergy to autoimmunity than to immediate-type allergy). Skin testing to allergens is connected with a considerable risk of anaphylaxis, while this is exceptionally rare in case of haptens.

Regardless of these and other substantial differences, the tendency of referring to haptens as "allergens" seems to be more widespread now than a century ago, hinting on a decline in clinicians' awareness of the differences in underlying mechanisms. This seems to encourage some allergists to copy their knowledge about true allergens (e.g. grass pollen proteins) while diagnosing or treating contact allergies. Such deceiving "analogy" to the effective desensitization of allergic rhinitis or asthma with allergens has resulted in the controversial concept of "desensitization" of contact allergy: After a long struggle, urushiol-containing "vaccines" have been withdrawn from the US market, only for the idea to reincarnate in Europe in form of "nickel hyposensitisation vaccines".

The improper terminology has also influenced regulatory bodies, which now mistake haptens for allergens, too, and again in analogy to allergens for immunotherapy, classify haptens as "therapeutic drugs". With estimated 3 to 5 thousand environmental haptens, most of them sensitizing each relatively small groups of people, the cost involved in registration as "drug" would make production of most patch test substances economically unsustainable, thus decreasing the chances of many patients for having the cause of their disease identified.

Recently, representatives of the European Society of Contact Dermatitis (ESCD) have issued a letter to the European Medicines Agency (EMA) expressing concerns about the present developments, however, the letter itself contained the imprecise terminology, thus reinforcing the confusion of haptens and allergens. At present, an action is discussed within the European Academy of Allergy and Clinical Immunology (EAACI) aimed at turning the EMA's attention to the fundamental differences between allergens and haptens, as well as to the fact that haptens do not fulfill the criteria for a therapeutic drugs, and the present tendency to overregulating this area is disadvantageous to the patients.

POSTER PRESENTATIONS

PATCH TEST IN FACIAL MELANOSIS

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Background: Facial melanosis is a common manifestation of many dermatoses, commonly allergic contact dermatitis caused by allergens such as fragrances, nickel, preservatives, PPD, photocontact dermatitis, sesquiterpine lactone containing plants, grooming tools like cosmetics, and rubber products.

Aims & Objectives: To define epidemiological characteristics of patients with facial melanosis and to determine the prevalence of common allergens by Patch test.

Methodology: A retrospective study of 81 patients presenting with facial melanosis over a period of 4 years was conducted. Patients were patch tested with Universal, cosmetic series and relevant products brought by the patients, with further photopatch testing. They were evaluated on day 3 and day 7 as per ICDRG score and the results were documented.

Conclusion: It was observed that the maximum number of patients were female in middle aged group having complaints for more than 6 months of duration. The most common diagnosis was allergic contact dermatitis (hair dye, cosmetics, bindi, kumkum, topical medications, plants), photocontact dermatitis, atopic dermatitis, seborrheic dermatitis, lichen planus pigmentosus. Patch test were positive in 35 patients (43.2%) out of which nickel was most common allergen seen in 8 patients (22.9%) followed by fragrance mix (11.4%), thiomersal(11.4%), potassium dichromate (8.6 %), PPD (8.6%), nail paint (5.7%), colophony (5.7%), disperse orange (5.7%). Photopatch tests was negative in all patients. Thus we conclude that allergic contact dermatitis is a common cause of facial melanosis and nickel is the commonest allergen causing it.

FRAGRANCE CONTACT ALLERGY: RESULTS OF A POPULATION BASED STUDY IN EUROPE

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Background: Our current knowledge of fragrance contact allergy is based on patient data and population-based studies are missing.

Objectives: To determine the prevalence of fragrance contact allergy and assess the clinical relevance of any positive patch test in the general population.

Methods: A random sample from the general population, aged 18 to 74 years, was selected in 6 European areas (Sweden, The Netherlands, East-Germany, West-Germany, Italy, Portugal), 12,377 subjects were interviewed and a random sample (n=3,119) patch tested to the European standard series True test panel 1, 2, 3 and 20 fragrances in Finn Chambers.

Results: The conservative prevalence of fragrance contact allergy (defined by the existence of a positive patch test to Fragrance Mix I (FM I) or Fragrance Mix II (FM II) or any of the individual materials in either FM I or FM II or Peru Balsam or sesquiterpene lactones or 3 and 4-(4-Hydroxy-4-methylpentyl)-3-cyclohexene-1-carboxaldehyde (HMPCC) that show clinical relevance defined conservatively as lifetime avoidance of scented products and contact dermatitis in a lifetime or an itchy skin rash lasting more than 3 days in a lifetime, respectively is 0.8% and 1.9%, respectively. This compares to a prevalence of up to 14% reported in clinics in dermatitis patients. The prevalence rates of contact allergy to fragrances in females are about two times higher than in males in very country.

Conclusions: The data show a substantially lower prevalence of fragrance contact allergy (positive patch tests) in the general population in Europe as compared to previously published clinical data.

A RANDOMIZED ASSESSOR-BLINDED CONTROLLED TRIAL ON THE EFFICACY AND SAFETY OF VIRGIN COCONUT OIL VERSUS MINERAL OIL AS A THERAPEUTIC MOISTURIZER FOR SENILE XEROSIS

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Introduction: This study validates the use of an indigenous agricultural product, virgin coconut oil(VCO), for senile xerosis. With its properties, VCO may be superior and cost-effective compared to synthetic mineral oil. This will lead to a widespread use, promote Philippine coconut industry and potentially improve the economy.

Materials and Methods: The study was approved by the Expanded Hospital Research Office of PGH. Randomization and Allocation concealment was done. The primary investigator was blinded. Application of test oils twice-a-day for 2-weeks was instructed. Quantitative outcome for effectivity measured with corneometer and sebumeter. Investigators and participants were evaluated with ODSS and the Filipino Dermatology Life Quality Index respectively. Patient-assessed clinical efficacy and adverse effects documented on follow-up.

Results and Discussion: With 188 subjects screened, 148 were included and 125 completed the study. VCO showed more beneficial effects in the ODSS(RRR=60.5%,95%CI:40.7,73.7), patient-assessed efficacy (RRR=27.6%,95%CI:15.5-38), corneometer reading(RRR= 51.7%, 95%CI: 25.8 to 68.6) and sebumeter reading (RRR=55.5%, 95%CI:21. 8,74.6). DLQI scores were comparable. Over-all, VCO group showed 32.1% therapeutic response compared to 8.9% in the mineral oil group. Adverse events were statistically insignificant.

Conclusions: Among elderly patients with mild to moderate senile xerosis, topical VCO application for 2-weeks was superior to mineral oil in the immediate improvement of leg xerosis based on objective and subjective criteria for treatment success.

MONONUCLEAR CELL MICROABSCESSES IN SPONGIOTIC DERMATITIS: A HISTOPATHOLOGICAL CLUE FOR ALLERGIC CONTACT DERMATITIS

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Background: Mononuclear cell microabscesses containing Langerhan's cells are often viewed as a non-specific feature of spongiotic dermatitis. However, in allergic contact dermatitis (ACD), Langerhan's cells may present a previously sensitized allergen to the immune system or perpetuate the immune response.

Methods: From the Yale Dermatopathology Laboratory archives, we identified 74 patients from 2009-2011 with spongiotic dermatitis who had undergone patch testing at a referral center for contact dermatitis. Routine hematoxylin and eosin-stained sections were evaluated for the presence of mononuclear cell microabscesses, and a retrospective chart review was conducted.

Results: Of the patients with confirmed ACD (n=36), they were equally likely to have identifiable mononuclear cell microabscesses present (50%, 17/34) as absent (48%, 19/40). Among patients with mononuclear cell microabscesses, ACD was identified in 50% (17/34) of patients and was the most frequent underlying eczematous dermatosis; other associated diagnoses varied atopic dermatitis (2), hypersensitivity reaction (1), possible cutaneous T-cell lymphoma (1), seborrheic dermatitis (1), sebopsoriasis (1), psoriasis (1), irritant contact dermatitis (1), nummular dermatitis (3), pomphylox (2), hand eczema (1), eczematous dermatitis of unclear etiology (3).

Conclusion: While mononuclear cell microabscesses are not specific for allergic contact dermatitis, their presence in spongiotic dermatitis is clue for ACD and should be reported by the pathologist.

ENUMERATION OF COMMON CONTACT ALLERGENS IN NEW DELHI, INDIA

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Aims: To study common contact allergens and correlate with occupation

Methods: A retrospective analysis was carried out for patch test carried out with Indian standard series for years 2006-2010. Patch test was carried out by standard method on upper back using aluminium chambers and readings were carried out after 48 and 96 hours.

Results: Six hundred and seventeen (384 men and 233 women) were patch tested. The common clinical diagnoses were contact dermatitis to parthenium 277, cement 43, hair dye 33, footwear 15, cosmetics 23, metals 22, medicaments 10,, paints 2, lichenoid 14,and chemical leucoderma 4 cases. Patch test was also carried out in patients with photodermatitis 20, hand eczema 18, atopic eczema 58 and miscellaneous 75 cases. These patients included 162 housewives, 129 farmers, 106 professionals, 51 masons, 21 health care workers, miscellaneous occupations 103 cases. 65% patients were positive to one or more allergens, 39 % to one, 12.6% to two, 7.8% three, 3.5% to four and 2.16% to 5 allergens. In patients aged 60 years and above 48.6% were patch test positive compared with 35-36 % each in less than 20 years, 21- 39, 40-59 years age groups. Potassium dichromate was positive in 35/51 (68.63%) and cobalt in 11/51 (21.5%) masons. Nickel sulphate was positive in 19/160 (11.9%) housewives, 18/106 (17%) professionals 1/51(2%) masons. Parthenium was positive in 84/128(65.63%) farmers, 55/155 (35.5%) housewives, 32/104 professionals, 8/37 (21.6%) factory workers and 32/98 (32.6%) misecellaneous workers.

Conclusion: It is concluded that parthenium followed by potassium dichromate, nickel and cobalt are common allergens and correlate with the occupation.

REVIEW OF EVIDENCE-BASED DERMATOLOGIST-INITIATED CLINICAL TRIALS ON COCONUT DERIVED OIL AND MONOLAURIN

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Background: Traditional and laboratory studies since the 1960s report antiseptic properties of the oil (VCO) and Monolaurin (ML), the lauric monoglyceride derived from coconuts.

Objective: To investigate the clinical application of these properties using current methodology.

Method: Philippine Dermatological Society (PDS) members and residents have since 1998 initiated then made follow-up Randomized Controlled Trials (RCTs) and Systematic Reviews on VCO and ML. RESULTS: Presented and published or archived RCTs versus gold standard Controls showed significantly better results of VCO on staphylococcal colonization in atopic dermatitis. In similarly constructed studies, ML showed significantly comparable or better effectiveness in (1) in-vitro sensitivity rates on bacterial isolates from pediatric pyodermas; (2) on Gram (+) bacteria from infected skin; (3) on Pityrosporum spp (+) skin lesions; (4) on C.albicans, S. aureus, E.coli, E. aerogenes, P. aerogenosa in preservative efficacy testing of ML preserved cosmetics. A systematic review of three studies on a ML antiseptic hand gel showed reduced number of serratia marcescens and of 6 microbial isolates from post duty medical personnel's

hands, skin irritation and dryness. CONCLUSION: These serial studies showed broad-spectrum antimicrobial (-bacterial,-fungal, possibly viral) action. More subjects, metaanalysis of studies, a better understanding of VCO and ML's apparently different mechanism of anti-microbial action from standard antibiotics may find importance in treating MRSA and other emerging resistant organisms, including viruses.

ANALYSIS OF THE INCIDENCE OF ALLERGIC CONTACT DERMATITIS TO SUNSCREEN: A COHORT STUDY

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Objectives: To analyze our patch test database for incidence of allergic contact dermatitis (ACD) to sunscreen and to ascertain common features of these patients.

Method: A cohort of all patients patch tested from the University of British Columbia Contact Dermatitis Clinic was analyzed. 1527 patients were patch tested from Jan 2009 to July 2012. The database was searched for allergies to benzophenone-3 on the North American Contact Dermatitis Group (NACDG) screening series. Charts were also reviewed for those who were further tested to the sunscreen series. The charts of those patients who tested positive to either benzophenone-3 or a sunscreen chemical were further analyzed.

Results: Twenty-three out of the 1527 patients seen were tested to the sunscreen series. Of these, only four patients had a positive reaction to a sunscreen chemical or to the product they were using. In addition, eight out of the 1527 patients who had no specific history of sunscreen allergy reacted to benzophenone-3 on the NACDG series.

Conclusion: In the studied cohort, ACD to sunscreen was found to be very uncommon (0.8%). Of those tested to the sunscreen series, many received a final diagnosis of polymorphous light eruption. Others had a reaction to fragrances and/or preservatives which may be present in their sunscreen or cosmetic products.

MYCOSIS FUNGOIDES WITH PATCH TEST-PROVEN CHRONIC CLOTHING CONTACT DERMATITIS: A CASE REPORT SERIES OF THREE PATIENTS

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Introduction: Mycosis fungoides is a rare type of non-Hodgkin's lymphoma of T cells characterized by erythematous patches, plaques and ulcers. Contact dermatitis has protean manifestations and can present with similar lesions. It is an inflammatory reaction involving

previously sensitized antigen specific T lymphocytes. These three cases show the possible causal relationship of the two entities.

Clinical Picture: This is a VSRC Institutional Review Board approved chart review. Three Filipino patients were diagnosed to have Chronic Clothing Contact Dermatitis (CCD) by characteristic clinical pattern and relevant patch testings, but had Mycosis Fungoides (MF) by multiple histo- and immunological examinations.

Treatment and Outcome: Multiple patch tests were +/- to 2+ mostly to nickel, chrome, fragrance, dyes, preservatives, formaldehyde resins, and steroids. Improvement followed phototherapy and avoidance of allergens.

Conclusions: Mycosis fungoides and contact dermatitis should be considered in patients with chronic dermatitis unresponsive to medications. Clinical pattern, patch testing and skin biopsy are essential. There may be a probable causal correlation between chronic contact dermatitis and carcinogenicity via lymphocyte activation. Contactants possibly acting as tumor promoters needs further research. Although disease causality needs more positive correlations, because these patients have improved with regular avoidance of their (+) allergens and minimal MF treatment, we propose clinical applications for other sweaty patients with CCD.

STANDARD PATCH TEST SERIES RECOMMENDED BY THE BRAZILIAN CONTACT DERMATITIS RESEARCH GROUP. 2006-2011 PERIOD

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Objective: To evaluate the variation over the years of positive patch-test results from standard series during the period of 2006-2011.

Method: Analysis of patch-test results during the quoted period from patients with suspected allergic contact dermatitis. The 96 hours reading with standardized technique was performed. Study was approved by institution's review board.

Results: 618 patients were patch-tested. The most frequently positive allergens were: nickel sulfate28,16%, thimerosal16,02%, potassium dichromate11,7%, cobalt chloride10,52%, fragrance mix8,74%, carba-mix7,28%, neomycin7,28%, p-phenylenediamine6,96%, PPD-mix6,63% and thiuram-mix6,15%.

Some allergens presented similar frequencies for this time period, while others had different frequencies year by year. For statistical analysis, Pearson correlation coefficient was performed and significance level of 0.05 was considered. Variation of positive patch-test results over the years was statistically significant for: lanolin, neomycin and anthraquinone.

Conclusions: Previous studies reported similar allergens as ours, however, presenting lower sensitization rates.
Standard series behaved uniformly during study period. Most allergens had a slight tendency to decrease the amount of positive patch-test results. Yet, statistically significant reduction in positive patch-test results was observed in three allergens.

Study's follow up should be useful in determining the most relevant allergens for testing in our population as well as determining which allergens could be excluded from standard series, as they may represent low sensitization risk.

CHEMICAL ASSESSMENT OF "IN-USE" PATCH TEST REAGENTS FROM DERMATOLOGY CLINICS

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When patch testing (PT),test validity and assessment of allergic reaction severity are highly dependent on the use of reliable chemical allergen test reagents. The purpose of this study was to measure the actual concentration of nickel sulfate (NiSO4), methyl methacrylate (MM), formaldehyde (FA) and gluteraldehyde (GA) compared to the labeled concentrations of commercial reagents found in dermatology clinics where patch testing is routinely performed. The commercial reagents, NiSO4, MM and GA are supplied either dissolved or suspended in petrolatum (usually in syringe, multiuse containers) while FA is diluted in water. Participating clinics submitted in-date and out-dated reagents to a laboratory for analyses. Both NiSO4 and FA levels were at or above the labeled concentration. NiSO4 particulate was uniformly distributed throughout the petrolatum. In contrast, MM was low and variable in commercial allergen reagents. "In-Use" MM reagent syringes were all =56% of the 2% label concentration with no relationship to expiration date. One MM syringe purchased directly from the manufacturer was 70% of the labeled concentration. Lower MM levels in syringes were consistently measured at the tip vs. plunger end of the syringe suggesting loss due to MMâ€™s volatility. GA patch test reagents concentrations ranged from 27 to 45% of the labeled (1% in petrolatum) amount, independent of expiration date. No GA concentration pattern between tip and plunger was observed. These data suggest that false negative PT results may sometimes be due to instability of volatile or self-polymerizing chemical allergens in the test reagents.

TOXIC KERATOCONJUNCTIVITIS FROM CUMULATIVE AND DOSE-DEPENDANT BENZALKONIUM CHLORIDE EXPOSURE

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Toxic keratoconjunctivitis is not allergic in nature, but its presentation is similar to and thereby often misdiagnosed as an ocular allergy. The offending agent, most commonly a preservative in topical eye medications, causes direct chemical damage to ocular and adnexal tissue. Eyelid involvement can appear clinically indistinguishable from allergic contact dermatoblepharitis. Misdiagnosis leads to a protracted course of exposure and morbidity as treatment regimens of masquerading conditions often harbor the causative agent. Here we present a case of chronic toxic keratoconjunctivitis associated with significant eyelid erythema and edema from benzalkonium chloride exposure. Additionally, we include a diagnostic and treatment algorithm derived from the literature to increase recognition of this important condition that may present to either an ophthalmologist or dermatologist.

ATOPIC DERMATITIS AS A SIDE EFECT OF ANTI-TNFa

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Background: AD is a chronic inflammatory skin condition, which presents various triggers. Cutaneous reactions were associated with TNF-α inhibitors, interferon, EGFR inhibitor and kinase inhibitors. The anti-TNF-α, such as infliximab, adalimumab and etanercept can induce cutaneous side effects and AD lesions were rarely described.

Objective: To present a patient with atopic dermatitis picture after the use of adalimumab and etanercept.

Case Report: A 65 years-old woman with rheumatoid arthritis was using prednisone and adalimumab 40mg subcutaneously. After 2 months she developed widespread, intensely pruritic eczema in flexures (cubital and popliteal fossae) without atopy history (fig. 1). Blood tests showed eosinophilia (13.3%) and IgE elevation (1313 IU/ul). Adalimumab was interrupted and the lesions disappeared after desonide cream. One month later the hemogram was normal and IgE was 133 IU/uL. After three months etanercept was introduced and she had new eczema lesions with eosinophilia (7%) and IgE 732 IU/ul. The Etanercept discontinuation resulted in a amelioration of AD lesions and pruritus and the skin condition total control was achieved in 2 weeks.

Discussion: TNF-α inhibitors have been reported to have potent disease-modifying effects in immune-mediated diseases such as psoriasis, rheumatoid arthritis, connective tissue disease, and Chron disease. Cassano et al described a case of a severe atopic dermatitis which infliximab administration resulted in a dramatic amelioration of AD lesions and pruritus, persisting at follow-up examinations over a 3-year period. However this patient had a chronic-continuous course and concomitant contact allergy. The anti-TNFα are used to treat RA, psoriasis and colitis with good results, but new side effects are increasing. Some skin conditions were described after the use of anti-TNFα, like eczema, rosacea and acne. There are sporadic case reports of atopic dermatitis (AD) induced or precipitated by anti-TNF-alpha therapy, which have been attributed to the switch towards Th2-mediated reactions. One of the immunological effects of anti-TNFα is the induction of Th-17 cells, increasing IL-17 levels, which could stimulate the IgE production. Our patient had eczema-like lesions and an intense itch after adalimumab and etanercept. The drug suspension resulted in a dramatic amelioration of AD lesions and pruritus. In our review of the literature we found 7 well-documented cases of relapses or AD-like disease precipitated by infliximab, another anti-TNFα drug, but we did not find this side effect with adalimumabe and etanercept.

Conclusion: AD is another rare side effect of the TNF-α inhibitors, such as adalimumab and etanercept.

EVALUATION OF A COMPLEMENTARY ORAL SERIES IN PATIENTS WITH ORAL COMPLAINTS AND PROSTHESIS

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Background**:** Patients with oral sensitivity are common in our practice. Allergic contact dermatitis is one of the most frequent etiology.

Objective**:** The aim of this study was to evaluate a complementary dental series in patients with oral complaints.

Methods**:** We patch tested 54 patients with or without oral complains, all of them using oral prosthesis. We tested the Brazilian standard series and a complementary oral series according to ICDRG recommendations.

Results**:** From 54 patients tested, 34 (62.9%) were positive at least to one substance. Fifteen patients had oral complains, such as burning mouth, itch or tongue edema. Without the oral series, just 23 (42.6%) patients had a positive result. Using the Brazilian standard series with the complementary oral series we improved the positivity of the patch test (p=0.035). The relevance using both series was 44.1%.

Conclusions**:** In patients with oral complaints the use of a complementary oral series improved the positivity of the patch test.

INCREASED PREVALENCE OF POSITIVE REACTIONS TO METHYLCLOROISOTHIAZOLINONE / METHYLISOTHIAZOLINONE (MCI/MI) AT HOSPITAL DAS CLINICAS UFMG, BRAZIL

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Background: Through the 1980s, 1990s and 2000s MCI/MI prevalence was around 2 %, while from 2009 to 2011 its prevalence increased from 2.3% to 3.9% in Europe.

Objectives: To analyze the results of patch tests to MCI/MI performed in 359 patients from November 2009 to October 2012 and compared to the previous data collected from March 2006 to October 2009 (447 patients).

Methods: A retrospective study was done based on the results of patch tests performed in allergic contact dermatitis suspected patients. Differences in the MCI/MI positive reactions in these periods were analyzed by exact Fisher's test and Odds ratios (CI=95%).The analyzes were obtained with the program R, version 2.13.0.

Results: The data showed 11.14% of sensitization to MCI/MI during 2009-2012 contrasting with the previous period (3,35%). A positive association was found between its positivity and the period of 2009-2012 (OR+3,61 CI 95% 1.91-7.16) p<0,001. Women was the most affected (87.5%), especially those linked to wet work (cleaners and housewives). 82.5% presented disseminated lesions affecting at least more than 3 areas, being legs and feet, scalp and neck the predominant sites. The main source was household products and cosmetics.

Conclusion: The increased sensitization to MCI/MI probably due to widespread consumer exposure was confirmed during 2009-2012.

PATCH TESTING WITH TEXTILE ALLERGENS

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Background**:** Recognition of allergic contact dermatitis attributed to textile dyes and resins is steadily increasing.

Objective**:** To review the results of patch testing with a textile series at our institution and to compare with previously published reports.

Methods**:** After approval by our institutional review board, we performed a retrospective review of results in patients who underwent patch testing using a series of textile dyes and resins from January 1, 2000, through September 30, 2011.

Results**:** A total of 671 patients (mean age, 56.5 years; female, 65.9%) were patch tested with the textile series (42 dyes and resins). These patients were also generally tested with the standard patch test series (n=620). Two hundred nineteen patients (32.6%) demonstrated allergic reaction to 1 or more textile dyes and resins, and 71 (10.6%) manifested irritant reactions. The most frequent allergens were disperse blue 106 1% (8.3%), disperse blue 124 1% (8.0%), and melamine formaldehyde 7% (8.0%). Of patients tested with the standard series, 36 (5.8%) showed a positive reaction to the traditional textile screening allergen *p*-phenylenediamine 1%.

FENTICHLOR PHOTOCONTACT DERMATITIS: A PERSISTENT ENIGMA

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Background*:* Fentichlor elicits high rates of positive photopatch test reactions despite its currently unknown clinical relevance.

Objective*:* To provide a comprehensive review of fentichlor, investigate the characteristics of patients with photosensitivity to fentichlor, and explore the current uses of fentichlor.

Methods*:* A review of photopatch test studies involving fentichlor was performed. A retrospective chart review was conducted in patients with positive photopatch test reactions to fentichlor at our institution. Product inquiries were placed to manufacturers of fentichlor to elicit the current uses of fentichlor.

Results*:* In selected photopatch test studies, positive reactions to fentichlor occurred in 0.0 to 11.8% of subjects. We found that 25 companies distribute or manufacture fentichlor worldwide, which includes two companies that sell 25 kg drums of fentichlor. The most common current uses of fentichlor are in research, in high throughput screening, and in antibacterial and antifungal creams.

Conclusions*:* Our review of selected photopatch test studies demonstrates that fentichlor remains a potent photosensitizing allergen worldwide. The bulk quantities of fentichlor available for sale and the current uses of fentichlor suggest that fentichlor may be currently incorporated into consumer products. We recommend that fentichlor remains in the standard series of photopatch test allergens.

HOLES IN KNOWN NICKEL EXPOSURE?: METAL CONTENT AND RELEASE OF BODY MODIFICATION JEWELRY

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Background**:** The practices of non-auricle body modification are growing, which include: naval, eyebrow, lip, nipple, and genital piercings, and dermal implants. Metal piercing exposure, notably nickel in ear piercing, is well-known risk factor for developing allergic contact hypersensitivity to metals.

Objective**:** The objective of this study was to investigate the metal release and metal content of a selection of non-auricle body jewelry to evaluate risk of allergic contact hypersensitivity to patients with body piercings.

Methods**:** 100 items of non-auricle body jewelry, composed of 29 straight barbells, 16 labret studs, 13 non-navel curved barbells, 13 navel curved barbells, 11 closed rings, 6 nose studs, 5 circular barbells, 4 male genital piercing pieces, 2 nipple-specific rings, and 1 dermal implant were collected from tattoo/piercing parlors and online and evaluated for nickel and cobalt release with nickel and cobalt spot tests. Composition was determined by x-ray fluorescence spectrometry.

Results**:** 8/100 (8%) items released nickel. None released cobalt. Nickel was detected in 40/100 (40%) items. 2/4 (50%) male genital piercing pieces released nickel. 5/8(63%) nickel-releasing items were anodized with a colored metal alloy.

Conclusions**:** Non-auricle body jewelry is a potential contributing factor in the elicitation and active sensitization of allergic contact dermatitis to metals.

JELLYFISH STING TREATMENT: HOT WATER AND LIDOCAINE OR LEMON AND OIL?R LEMON AND OIL?

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Prospective clinical studies evaluating treatment regimens for stings from the most toxic jellyfish species are nearly impossible to perform. Preventing nematocyst discharge and inactivating the venom are competing therapeutic objectives potentially contributing to conflicting reports of efficacy of different treatments. Lidocaine and hot water appear most widely beneficial in the literature. Induction of nematocyst discharge in Cnidarians species has been demonstrated with ascetic acid, ammonia, ethanol, sodium hypochlorite, and sodium

bicarbonate. Despite potentially causing additional nematocysts remaining on the skin to discharge vinegar, lemon juice and urine remain common home remedies. The left hand of a 55y/o scuba diver in São Tomé became entangled with tentacles of a box jellyfish (class Cubozoa). Extreme pain was instantaneous with visible firing of nematocysts during ascent. Urine had no effect. Hot water with lemon juice exacerbated the pain. Within 8hrs small vesicles began forming, coalescing into weeping blisters. Local dive masters with box jellyfish experience recommended using a palm oil lemon juice emulsion believing the oil prevents nematocyst discharge and lowered pH denatures venom protein. At 24 hrs hand and lower arm were swollen and warm with axillary lymphadenopathy. At 48hrs ciprofloxacin was prescribed, healing in 6 wks. Research is needed to differentiate nematocyst discharge attenuation and venom inactivation in the treatment of acute pain.

DAILY NICKEL EXPOSURE FROM KEYS: UNDERSTANDING PREVALENCE AND UNLOCKING SOLUTIONS FOR THE NICKEL-ALLERGIC PATIENT

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Keys are an important exposure source of metal allergens and pose a significant problem for nickel-allergic individuals due to daily use. We investigated the frequency of nickel and cobalt release in common keys available from four retail stores and evaluated the effectiveness of coatings for preventing metal allergen release from the keys. Nickel release from keys is extraordinarily common. Keys coated with different enamels and paints were subjected to lock interaction 60 times, and nickel (DMG) and cobalt spot tested at 30th and 60th to assess for metal allergen release. The section of the key inserted into a lock tested positive following insertion into a lock after only 30 times. The handle of the key was not found to release nickel after 60 times. Spray/coating may be a useful tool in protecting nickel sensitive individuals from their keys, but cannot consistently prevent nickel-release from portions used frequently; therefore, brass alternatives are recommended.

FOUR YEARS AND FOUR PHYSICIANS TO DIAGNOSE METHYLISOTHIAZOLINONE NIPPLE ACD

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A 27 y/o atopic seen by his dermatologist in 2008 complained of armpit and right nipple irritation. KOH prep negative and triamcinolone 0.1% TID was prescribed for ICD. 6mo later presented with bilateral axillary dermatitis and intermittent right alveolar itching with weeping, crusted eczema consistent with an atopic diathesis. CutivateÂ®, BactrobanÂ®, and AquaphorÂ® were prescribed. Patient returned in 2mo with nipple/areola eczema bilaterally. Cultures and

4mm punch biopsy of right areola were performed to r/o infection and Pagetâ€™s Disease. Cultures were negative; dermis contained eosinophils and lymphohistiocytic cells; stratum malpighii was acanthotic with spongiosis consistent with ACD. Patch testing was not recommended/performed at this time. Personal use of homeopath-recommended topical LotriminÂ®, Calendula gel, and Psoriaflora was unsuccessful in alleviating dermatitis. New physician work-up included bilateral breast ultrasound and extensive labs, including: CBC/electrolytes/thyroid/Vitamin D/metabolic panels, etc. All wnl and referred to general surgeon to r/o malignancy. Cytology of nipple discharge bilaterally was negative for dysplasia, suggestive of inflammation. White petrolatum use was recommended. Persistent nipple/areola pruritis, sensitivity, and discharge led to self-referral for patch testing in 2012 due to significant quality of life concerns. Two+ patch test at 72hrs to MCI/MI using T.R.U.E. TestÂ® with a relevant history of daily use of Dove Body Wash. With MI/MCI avoidance patient is symptom free for 5 months.

A PROMINENT CASE OF RECALCITRANT POMPHOLYX

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A 34 year old female presents with a history of developing taut bullae on her fingers and palms which started during university. The patient has a past history of hayfever and is otherwise healthy. Originally, she would have an episode every six months which would last about a week. After a prolonged latent period, she began having episodes every summer lasting 7-10 days. Eventually, the episodes increased in frequency to every few weeks.

In the past, she was treated with an assortment of corticosteroid creams, narrow band Ultraviolet B (311 nm) (UVB) and Psoralen Ultraviolet A (320-400 nm) (PUVA) treatments, and none were beneficial. Oral prednisone was the only medication that seemed to help alleviate the condition. When the frequency of the episodes increased to every few weeks, methotrexate was introduced as a steroid sparing agent but failed to control the condition. Next, mycophenolate mofetil (CellCept) was started at a dose of 500 mg bid and was gradually increased to 3.0 gm bid.

A diagnosis of pompholyx was made. The patient was patch tested according to the North American Contact Dermatitis Group (NACDG) Standard Screening Series and test sites were all negative at 48 and 120 hours. This case demonstrates how severe this condition can be and how it can be very challenging to manage.