American Contact
Dermatitis Society

Excellence in Occupational & Contact Dermatitis Research, Practice & Education

ABSTRACTS

American Contact Dermatitis Society

16th Annual Meeting
February 17, 2005

Hilton New Orleans Riverside
New Orleans, LA

Visit ACDS at www.contactderm.org

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American Contact Dermatitis Society
16th Annual Meeting
Hilton New Orleans Riverside
Ballroom B
New Orleans, LA
February 17, 2005

The ACDS Annual Meeting is a full day focused on current issues in contact dermatitis and occupational skin diseases. Presentations include abstract and poster presentations on state-of-the-art research in the basic, applied and clinical science of contact dermatitis.

Ticketed Events

There is no additional charge for these tickets, however, space is limited and reservations required. If you do not have tickets for any of these events, please check availability with the registration desk.

Breakfast Symposium
Roundtable Luncheon
Cocktail Reception

Fisher Resident Awards

Residents are eligible for the Fisher Resident Awards for the best oral abstract presentations. Eligible presenters are denoted with an asterisk following their presentation.

Verification of Attendance/Evaluation

You will receive evaluation forms for the meeting in your registration packet. Please complete the form and deposit them in the collection box at the registration desk following the meeting.

Appropriate credit for attendance should be ascertained and reported by individual physicians to the particular state or medical society to which he or she belongs. A certificate of attendance will be provided to all registrants.

CME Credits

The American Contact Dermatitis Society's Annual Meeting certifies that this educational activity has been recognized for a maximum of 6 credit hours in Category I and may be applied towards the American Academy of Dermatology Continuing Medical Education Award.
Program: 532-100

ACDS Membership

Membership in ACDS is open to dermatologists, physicians, researchers and medical professionals with an interest in dermatitis and occupational dermatology. Membership information can be found at www.contactderm.org.

Dermatitis

Dermatitis the official journal of the American Society of Contact Dermatitis. This quarterly, peer-reviewed journal, under the direction of Editor-in-Chief Ponciano D. Cruz, MD, provides clinically focused articles on diagnosis and treatment of dermatologic conditions caused by irritants and allergic reactions. Available online, Dermatitis, is searchable and accessible anywhere there is an internet connection. The journal is free with an ACDS membership or to order a subscription please, call 1-800-568-7281 or visit www.bcdecker.com.

Disclosure Statement

The American Contact Dermatitis Society requires balance, independence, objectivity and scientific rigor in all of its educational activities. The Board of Directors requires that all presenters and audience members comply with all applicable laws and regulations governing disclosure.

Schedule of Events

7:00 AM **Registration Open** ***Grand Ballroom B***

7:30 AM **ACDS Breakfast Symposium** ***Grand Salon 15/18***
David Cohen, MD: Therapies for Facial Dermatitis
Sponsored by CollaGenex

8:30 AM **Welcome to the 16th ACDS Annual Meeting** ***Grand Ballroom B***
Anthony Gaspari, MD, ACDS President
Bruce Brod, MD, ACDS Annual Meeting Committee Chair

8:35 AM **General Session**
Linda Moreau, MD, FRCP: Allergic Contact Dermatitis Associated with Reactive Dyes in a Dark Garment: A Case Report*

8:45 AM **Kim Eickhorst, MD:** Rue the Herb: Ruta Graveolens Associated Phytophototoxicity*

8:55 AM **Denise Aaron, MD:** Burden and Bother of Dermatitis in Patients Referred to a NACDG Center for Patch Testing*

9:05 AM **Giuseppe Militello, MD:** The Utility of the TRUE Test in a Private Practice Setting*

9:15 AM **Anna A. Bar, MD:** Antigenicity of Patch Test Allergens Over Time*

9:25 AM **Krista Shackelford, MD:** Adverse Events from Patch Testing: A Case Report of Pemphigus Foliaceous and Epidermal Detachment*

9:35 AM **Divya Srivastava, MD:** Identification of the Constituents of Balsam of Peru in Tomatoes*

9:45 AM **Mary Sheu, MD:** Allergic Contact Dermatitis from Tom's of Maine Natural Deodorant: A Report of 4 Cases Associated with Lichen Acid Mix Allergy*

9:55 AM **Golara Honari, MD:** The Utility of Patch Testing with Topical Medicaments as an Adjunct to Standard Screening Panels*

10:05 AM **Dan Slodownik, MD:** Allergic Contact Cheilitis and Stomatitis to Toothpastes in Israeli Patients* **

10:15 AM **Peter C. Schalock, MD:** Efficacy and Patient Perception of Grenz Ray Therapy in the Treatment of Dermatoses Refractory to Other Medical Therapy*

10:25 AM **Samara Mimesh, MD:** ACD to Corticosteroids: Reproducibility of Patch Testing and Correlation with Intradermal Testing*

10:35 AM **Break/Exhibits/Posters** ***Grand Salon 10/7***
Posters in Grand Salon 10/7

11:00 AM **James Yiannias, MD:** Update on ACDS Databases.

* Candidates for the Alexander A. Fisher Resident Award.
** Howard I. Maibach International Travel Award recipient.

11:05 AM **Occupational Dermatology Symposium:**
The Donald J. Birmingham Occupational Skin Diseases Symposium is supported by the National Occupation Research Agenda (NORA).
Moderated by Boris Lushniak, MD

11:05 AM **D Linn Holness, MD:** Dermatologist Occupational Disease Practice Survey
11:15 AM **Linda Moreau, MD, FRCP:** Occupational Allergic Contact Dermatitis From Triphenyl Phosphite*
11:25 AM **Curtis P. Hamann, MD:** Prevalence of Latex Allergy in Dental Professionals in Japan and the United States
11:35:00 AM **Albert Wolkerstorfer, MD:** Unexpected Exposure to Nickel in Electroplating
11:45:00 AM **Malin Frick, MD:** Poor Correlation Between Stated and Found Conctrations of Isocyanates in Patch-Test Preparations
11:55:00 AM **Alexander Zemtsov, M.D., MSC:** Occupational Allergic Contact Dermatitis from Sodium Lauroyl Sarcosinate in the Liquid Soap

12:05 PM **ACDS Roundtable Lunch** ***Grand Salon 15/18***
Sponsored by Allerderm

1:30 AM **General Session**
Ronald Brancaccio, MD and David Cohen, MD: Remembering Alexander Fisher

1:40 AM **Alexander Fisher Lecture**
Melanie Pratt, MD: The Role of Mentoring in the Field of Contact Dermatitis

2:30 AM **ACDS Awards**

2:45 PM **Douglas L. Powell, MD:** Cutaneous Reactions to Silicone
2:55 PM **Klaus-Peter Wilhelm, MD:** Proclivity to Cumulative Skin Irritation: Dependence Upon Age and Sex

3:05 PM **Break/Posters/Exhibits**
Posters in Grand Salon 10/7

3:35 PM **Mark Davis, MD:** Back to Basics: In Calculating Patch Test Reactions, Should Macular Erythema and Lesser Reactions be Included?
3:45 PM **Vinod Kumar Sharma, MD:** Evolution of Clinical Pattern of Parthenium Dermatitis: A Study of 74 Cases**
3:55 PM **Susanne Astner, MD:** In-vivo confocal microscopy of contact dermatitis
4:05 PM **Cecilia Svedman, MD:** Contact Allergy to Metals After Percutaneous Transluminal Coronary Angioplasty (PTCA) and Stenting**
4:15 PM **Mark Davis, MD:** Patch Testing to the Dust Mite (Dermatophagoides Mix 0.1%): High Rate of Reaction in Both Atopic and Nonatopic Patients
4:25 PM **Rochelle R. Torgerson, MD, PhD:** Contact Sensitivities in Oral Disease

4:35 PM **ACDS Business Meeting**

5:00 PM **Cocktail Reception** ***Jasperwood***
Sponsored by Ferndale Laboratories

* Candidates for the Alexander A. Fisher Resident Award.
** Howard I. Maibach International Travel Award recipient.

Exhibitors

ACDS invites attendees to visit the following exhibitors located in the Grand Ballroom B behind the general session. Breakfast and morning and afternoon breaks will be served in the exhibit area.

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Allergic Contact Dermatitis associated with Reactive Dyes in a dark Garment: A case report

Linda Moreau, MD ∗, An Goossens, PhD ±
∗McGill University Health Center, Montreal, Quebec, Canada
±Contact Allergy Unit, Department of Dermatology, Katholieke Universiteit Leuven, Leuven, Belgium

We present a case of a patient who has not been occupationally exposed to reactive dyes, but did present with a dermatitis from wearing a dark cotton garment. The patient experienced reactivation of his dermatitis when rewearing a new unwashed dark T-shirt made of 100% cotton (in fact the patient reported that it had to be washed at least 3 times before the skin reaction disappeared). He presented positive patch tests to 6 reactive dyes from Chemotechnique® textile series. The clothing could not be proven as the true cause of the dermatitis, but resolution occurred upon removal of the suspected garment. This suggests that contact allergy to the reactive dyes (he did not react to any other dyes and his garment was a natural fabric) was likely responsible. Reactive dye allergies (both type I and IV) have mainly occurred in occupational settings (1,2,3). With this report, we would like to emphasize that reactive dyes, as a class, should be considered as potential allergens, both occupationally and from non-occupational exposure such as garments. If garments containing reactive dyes are not properly rinsed in the manufacturing process, we believe excess dye can be retained that may cause allergic contact dermatitis. Since the reactive dyes and their hydrolysis products are very water-soluble, they can be easily washed off to prevent allergic contact dermatitis.

Acknowledgments: Authors would like to thank the ACDS sponsorship mentoring award program.

References:

1. Estlander T. Allergic dermatoses and respiratory diseases from reactive dyes. Contact Dermatitis 1988: 18: 290-297
2. Thoren K, Meding B, Nordlinder R, Belin L. Contact dermatitis and asthma from reactive dyes. Contact dermatitis 1986: 15: 186-193
3.WILKINSON SM, MCGECHAEN K. OCCUPATIONAL ALLERGIC CONTACT DERMATITIS FROM REACTIVE DYES. CONTACT DERMATITIS 1996: 35: 376

Notes:

RUE THE HERB: *RUTA GRAVEOLENS* ASSOCIATED PHYTOPHOTOTOXICITY

Kimberly Eickhorst, MD of St Luke's-Roosevelt Hospital, Department of Dermatology, New York, NY; Vincent DeLeo, MD of St Luke's-Roosevelt Hospital, Department of Dermatology, New York, NY

We present an unusual case of phytophototoxicity induced by an herbal plant from the Rutaceae family, called *Ruta graveolens*. The presentation describes a nine-member extended family who came into contact with the Rue herb during an outdoor excursion and who subsequently had exposure to the outdoor sun. Despite application of sunscreen (SPF 30) all family members later experienced some form of photoirritant contact dermatitis.

The presentation describes an interesting case of photoirritant contact dermatitis, compares and contrasts photoirritant with photoallergic contact dermatitis, explores the causes of phytophototoxicity on a molecular level regarding *R. graveolens*, and reviews the presentation, course, and treatment recommendations of phytophototoxicity reactions.

Notes:

BURDEN AND BOTHER OF DERMATITIS IN PATIENTS REFERRED TO A NACDG CENTER FOR PATCH TESTING

Denise M. Aaron MD, Kathryn A. Zug MD, Todd MacKenzie PhD
Dartmouth-Hitchcock Medical Center. Lebanon, NH.

This IRB-approved study evaluates baseline skin-related quality of life (QOL) in patients presenting for patch testing. A cross-section of patients (n=107) presenting to Dartmouth-Hitchcock Medical Center's patch test clinic between October 2002 and June 2004 completed an anonymous skin-related QOL survey, Skindex-16+5.

Skindex-16+5, a validated QOL tool, assesses the bother of skin disease in four cardinal areas: symptoms, emotions, functioning, and occupational impact. Responses are indexed from 0 (never bothered) to 100 (always bothered).

All patients presenting for patch testing were significantly bothered by how their skin disease impacted emotional functioning (index=66, SD=27) and by symptoms (index=60, SD=25), especially itch and irritation. Patients with hand dermatitis fared much worse in all four areas (index= +16 to +28, $p<0.003$). Increasing age was associated with modest, but statistically significant, QOL improvement in all areas except symptoms (index= -3.3 to -5.5, $p<0.04$). Facial involvement, gender, occupation, atopic diathesis, chronicity, clinical diagnosis after patch testing, and number of relevant positive patch tests did not correlate with QOL.

Notes:

THE UTILITY OF THE TRUE TEST IN A PRIVATE PRACTICE SETTING

Giuseppe Militello MD, Denise Woo BS, Jonathan Kantor MD, William James MD
Department of Dermatology, University of Pennsylvania
Philadelphia, PA

Introduction: Studies have shown that standard panels, such as the Thin-layer Rapid Use Epicutaneous Test (TRUE), incompletely evaluate a significant number of patients with allergic contact dermatitis (ACD).

Objective: To study the utility of the TRUE test as a triage tool in a private practice setting.

Methods: A retrospective chart review of patients patch tested with the TRUE test during the period between 2000 and 2004 in four private dermatology practices was conducted. In addition to demographic data (sex, age), the frequency of positive reactions, clinical relevance, and final diagnosis was recorded.

Results: A total of 183 patients were patch tested and 50.8% of patients had at least one positive reaction. Of the patients with a positive reaction, 62.4% were determined to be of present relevance, while 19.4% of patients were concluded to likely have ACD to other allergens. Among patients with a negative reaction, 44.4% had a final diagnosis of atopic dermatitis or eczema and 28.9% of patients were presumed to have ACD to other allergens.

Conclusions: The TRUE test is a useful screening test for the evaluation and diagnosis of ACD in the private practice setting.

Notes:

ANTIGENICITY OF PATCH TEST ALLERGENS OVER TIME

Bar A, Law S, Storrs FJ
Oregon Health & Science University, Portland, OR, USA

There is little data on the viability of patch test allergens over time. We investigated the ability of several patch test allergens (mercaptobenzothiazole [MBT], para-phenylenediamine [PPD], epoxy resin, and myroxylon pereirae [balsam of peru]), which had been stored at room temperature for 40 years, to produce positive patch test reactions. A series of patients presenting to our contact dermatitis clinic who were discovered to have a positive reaction to standard NACDG preparations of MBT, PPD, epoxy resin, and/or myroxylon pereirae were selected to undergo patch testing with the 40 year old preparation. A total of 15 patch tests were placed on 12 patients. 3/3 patients with positive reactions to MBT had positive reactions to 40 year old MBT allergen. 5/5 patients with PPD sensitivity reacted to 40 year old PPD allergen. 3/4 patients with sensitivity to epoxy resin showed a positive patch test to 40 year old epoxy resin. However, only 1/3 patients who had myroxylon pereirae reaction on patch testing had a positive reaction to 40 year old myroxylon pereirae allergen. The analysis for antigen purity will be described.

This study was approved by OHSU Institutional Review Board #7554.

Notes:

ADVERSE EVENTS FROM PATCH TESTING: A CASE REPORT OF PEMPHIGUS FOLIACEOUS AND EPIDERMAL DETACHMENT

Krista Shackelford, MD and Debra Fett, MD, Department of Dermatology, Indiana University School of Medicine, Indianapolis, Indiana.

We present a 66 year-old white male with a three-month history of a crusting eruption with cephalocaudad spread. Histology and immunofluorescence findings supported a diagnosis of pemphigus foliaceous. Appropriate laboratory studies were obtained and the patient was initiated on azathioprine and prednisone. The patient's rash improved by 90%. However, his periorbital crusting persisted and he developed a contact dermatitis with impetiginization. He was treated for infection and referred for contact dermatology evaluation. History revealed he had been prescribed a variety of topical preparations over a 6-month period: Vaseline, Elidel ®, desonide, bacitracin, bactroban, and lacriblube. Patch testing was performed using the Mayo Clinic Contact Dermatitis Group Standard allergen tray. On day three, when the patches were removed, he had striking, yet asymptomatic epidermal sloughing within the areas where the tape had been. On day five, his reading was negative for allergens. He had notable improvement with acetic acid soaks, topical corticosteroids and oral antibiotics.

We present this case for interest and discussion of adverse events secondary to patch testing.

Notes:

IDENTIFICATION OF THE CONSTITUENTS OF BALSAM OF PERU IN TOMATOES

Divya Srivastava, New York University School of Medicine
Young-Tae Chang, PhD, New York University, Department of Chemistry
Subodh Kumar, PhD, SUNY College at Buffalo, Great Lakes Center
David E. Cohen, MD, MPH, New York University School of Medicine, Department of Dermatology

Background: Studies show that balsam-restricted diets result in significant improvement of systemic contact dermatitis in patients with contact allergy to balsam of Peru (BOP). While tomatoes have been implicated as a frequent cause of balsam-related dermatitis, the presence of BOP in tomatoes has never been confirmed.
Objective: High performance liquid chromatography (HPLC) coupled with mass spectrometry (LC-MS) and UV-spectrometry (LC-UV) was used to detect BOP constituents in tomatoes.
Methods: Samples of beefsteak, cherry, and plum tomatoes were extracted in ethyl acetate and analyzed using LC-MS and LC-UV for the presence of the following potent sensitizing constituents of BOP: benzoic acid, benzyl alcohol, trans-cinnamic acid, cinnamic alcohol, cinnamyl cinnamate, coniferyl alcohol, eugenol, isoeugenol, and methyl-cinnamate.
Results: The initial LC-MS analysis of each tomato extract showed multiple peaks. Two of these peaks had molecular weights of 134 and 180, which correspond to cinnamic alcohol and coniferyl alcohol, respectively. This analysis did not show peaks corresponding to the molecular weights of the remaining compounds. Co-chromatography of tomato extract with cinnamic alcohol and coniferyl alcohol using LC-UV further suggested the presence of these compounds in the tomato extract.
Conclusion: Coniferyl alcohol and cinnamic alcohol, constituents of balsam of Peru, are present in beefsteak, cherry, and plum tomatoes. Patients following a balsam-restricted diet will benefit from avoiding these tomatoes.

Notes:

ALLERGIC CONTACT DERMATITIS FROM TOM'S OF MAINE NATURAL DEODORANT: A REPORT OF 4 CASES ASSOCIATED WITH LICHEN ACID MIX ALLERGY

Mary Sheu, Eric L. Simpson, Sandra Law, Frances J. Storrs
Oregon Health and Science University, Portland, Oregon, USA

Background: Botanical ingredients used in personal care products are a significant and underreported cause of allergic contact dermatitis. Lichens are plant-like organisms that produce many biologically active compounds including usnic acid, which has antimicrobial, antiproliferative, anti-inflammatory and analgesic activity. These properties have led to the use of lichens in personal care products
Objective: To evaluate allergic contact dermatitis from a widely used botanical deodorant, Tom's of Maine Natural Deodorant.
Methods: We conducted patch testing in eight patients who were using Toms of Maine Natural Deodorant and were referred to the contact dermatitis clinic; seven patients had axillary dermatitis and one had dermatitis of the external ear.
Results: Seven of eight patients had positive patch test reactions to lichen acid mix and D-usnic acid. Of the seven patients who were patch tested to Toms of Maine Natural Deodorant, all had positive reactions.
Conclusion: Personal care products such as deodorants may represent a new route of exposure to lichen extract, a known allergen.

Notes:

THE UTILITY OF PATCH TESTING WITH TOPICAL MEDICAMENTS AS AN ADJUNCT TO STANDARD SCREENING PANELS

Golara Honari M.D.; James S. Taylor M.D. Department of Dermatology, Cleveland Clinic Foundation, Cleveland, Ohio

BACKGROUND: Applied medicaments are well known causes of allergic contact dermatitis. Standard screening panels contain common medicament allergens and vehicles. However a number of medicament allergens are missing from these panels.
OBJECTIVES: To investigate the utility of patch testing with topical medicaments as an adjunct to the standard screening trays.
METHODS: Retrospective review of data from 122 patients who were patch tested with at least the standard screening tray of the NACDG in our institution, between June and November of 2004.
RESULTS: Medicament allergy was identified in a total of 26 (21.3%) patients. Additional patch tests with patient's medications were performed in 75 (61.4%) patients and positive reactions were seen in 8 (10.6%). In 4 (5.3%) of these patients the offending medicament was a covert allergen which was not identified by the standard panel.
CONCLUSION: Additional patch testing with topical medicaments is a useful method to identify allergens that may not be diagnosed by testing with the standard panels alone.

Notes:

ALLERGIC CONTACT CHEILITIS AND STOMATITIS TO TOOTHPASTES IN ISRAELI PATIENTS

Lavy Y, Ingber A, Slodownik D.
Department of Dermatology, Hadassah university hospital, Jerusalem, Israel.

Background: Allergic contact cheilitis or stomatitis may appear after exposure to different substances, including dental materials, toothpastes, cosmetics, food, medications etc. The main allergens in toothpastes are flavorings, preservatives, and anti-bacterial substances. Literature regarding toothpaste allergic contact cheilitis and stomatitis is relatively scarce, and the subject was never investigated in Israel.
Objective: 1. Compare toothpaste allergy rate between patients with and without cheilitis or stomatitis.
2. Examine the yield of our proposal for a patch test kit for cheilitis and stomatitis
Methods: A patch test kit containing 11 substances used in toothpastes was formed. 24 patients with cheilitis or stomatitis were included in the research group.20 patients without cheilitis or stomatitis were included in the control group. They were all tested to this kit and also for their own toothpastes, standard and dental series of Chemotecnique® Diagnostics.
Results: 11 patients in research group (45%) were found to be allergic to toothpastes, comparing to only one patient (5%) from the control group ($p<0.05$). 11 positive reactions to the newly formed kit were seen on 7 patients in the study group, comparing to only 6 positive reactions on 5 patients of the control group. Significantly higher percentage of positive reaction to allergens in dental series was noticed in the study group, but their relevancy was unclear in most patients.
Conclusions: Rate of toothpaste allergy among patients with cheilitis or stomatitis might be higher than previously reported. Patch testing for toothpaste series is recommended in evaluation of these patients. Further studies are required in order to determine unified ingredients and concentrations of a toothpaste kit.

Notes:

EFFICACY AND PATIENT PERCEPTION OF GRENZ RAY THERAPY IN THE TREATMENT OF DERMATOSES REFRACTORY TO OTHER MEDICAL THERAPY

Peter C. Schalock, MD, Kathryn A. Zug, MD, Damian Dhar, MD, Joi Carter, BA, Todd McKenzie, PhD.
Dartmouth-Hitchcock Medical Center, Lebanon, NH USA

Background: Grenz ray therapy (GRT), a form of ionizing radiation used extensively in the past, has been used at our referral center to treat dermatoses refractory to other therapy.

Aims: 1. Describe recent GRT at Dartmouth-Hitchcock Medical Center. 2. Summarize treated population in terms of underlying dermatologic disease, location of treatment, prior treatments, average treatment dose. 3. Evaluate treatment response: patient perception of efficacy, duration of efficacy, treatment related discomfort and satisfaction. Assess for predictors of efficacy.

Methods: Cross sectional survey by mailed questionnaire.

Results: Of 351 patients treated with GRT from 1990-2001, 98 returned the questionnaire (28%). 64% reported decreased severity or clearing of disease 3 months following treatment and 63% reported decreased or no discomfort. Overall, 54% said GRT was worthwhile and 53% would choose it again. 40% reported mild side effects. Psoriasis and dermatitis subgroups were further identified and analyzed. Number of treatments ($p=0.2$) or total dose ($p=0.25$) were not significantly different among responders and nonresponders. Patients with contact dermatitis, 94% on the hands, were characterized. 64% felt GRT was worthwhile and 77% would choose this therapy again if needed.

Notes:

ACD TO CORTICOSTEROIDS: REPRODUCIBILITY OF PATCH TESTING AND CORRELATION WITH INTRADERMAL TESTING

Samara Mimesh, M.D.; Melanie Pratt, M.D., University of Ottawa, Division of dermatology, Ottawa, Canada

Background: Corticosteroid contact allergy is not uncommon. In view of a few encountered problems with patch testing it is considered inferior to intradermal testing. Reported reproducibility of positive patch test results in the literature range from 47%-98%.

Objectives: This study was conducted to:

1. Determine the reproducibility of patch testing to topical steroid preparations and their clinical relevance.
2. Correlate positive results with intra-dermal (ID) testing.
3. Address the issue of cross-reactivity between different steroid groups.
4. Identify the percentage of positive reactions to preservatives and vehicles used in commercial topical steroids.

Methods: A total of 30 patients with positive patch test results to steroids from 1995-2004 were identified. They were patch tested with the steroid series, select commercial steroid products and vehicles and preservatives used in theses preparations. Intradermal testing with steroids was performed at the same time. Reading was done on Days 2, 5, and 7.

Results: The study is in progress

Notes:

MODERN ELECTRONIC METHODS TO FACILITATE THE MANAGEMENT OF ALLERGIC CONTACT DERMATITIS

James Yiannias MD, Mayo Clinic College of Medicine, Scottsdale, Arizona

One of the most challenging aspects regarding the management of allergic contact dermatitis is successful patient education. “New for 2005” and other enhanced electronic resources from the American Contact Dermatitis Society can facilitate this process. (www.contactderm.org)

This presentation will describe the utility of the following electronic tools and provide an overview of how to access and use them:

1. Shoe & Glove Alternatives
    a. This listing guides your patient to specific brands and types of shoes and gloves that are free of common allergens such as carba, thiuram, and mercapto.

2. Common Allergen Avoidance, done in a “nearly Computer Free way”
    a. For each of the allergens in TRUE test, the fundamentals of allergen avoidance are discussed and alternative skin care products are recommended in this 30 page reference. This document can be readily printed and transported to settings where computer access is not immediately available.

3. Contact Allergen Replacement Database (CARD), Mayo Clinic Scottsdale
    a. Provides skin care product “shopping list” for patients free of unlimited number of antigens and their cross reactors identified by patch testing
    b. *New for 2005…* For those patients who cannot access a physician who performs patch testing, or for those patients who cannot afford the time or cost of patch testing, CARD can now generate a skin care product “shopping list” that is free of all of the most common allergens as identified by the North American and Mayo Clinic Contact Dermatitis Groups.

Notes:

DERMATOLOGIST OCCUPATIONAL DISEASE PRACTICE SURVEY.

D Linn Holness, Shehrina Tabassum, Gary Liss, Susan Tarlo, Frances Silverman. James Ronson Nethercott Occupational Health Clinic, St Michaels' Hospital & University of Toronto, Toronto, Canada.

Timeliness of diagnosis may lead to better outcomes for workers with work-related contact dermatitis (WRCD). Physician practices may affect the timeliness of diagnosis. The purpose of this REB approved study was to assess the practice patterns, barriers to diagnosis and management, knowledge and education needs of dermatologists in Ontario.

A survey was sent to all dermatologists in Ontario. 57% responded following two mailings. 57% reported seeing more than 20 patients/year with WRCD. The majority of dermatologists report taking an occupational history (92%), advising patients on possible health risks from exposure to workplace agents (63%) and advising patients to wear protective equipment if they are exposed to irritants or allergens (82%). The three most cited reasons for referring patients to another specialist for diagnosis were lack of necessary testing facilities, lack of adequate re-imbursement and time constraints. Dermatologists rated their knowledge of specific occupational skin diseases more favourably than their knowledge of general occupational health topics. The three most cited needs for continuing education were exposure assessment methods, exposure prevention methods and information about workers' compensation. These findings assist health service and educational program development.

This work is supported by research grant #02-036 from the Ontario Workplace Safety and Insurance Board.

Notes:

OCCUPATIONAL ALLERGIC CONTACT DERMATITIS FROM TRIPHENYL PHOSPHITE.

D. Sasseville, MD, L. Moreau, MD, McGill University Health Centre, Montréal, QC, CANADA.

Objective: To describe occupational contact dermatitis to triphenyl phosphite (TPP) in a plastic industry worker.
Case report: A 46-y.-o. man has been working for 6 years in a factory that produces plastic pipes. At times, he works on a production line that makes fire-proof pipes for electrical wiring. He is then exposed to phenolic resins, amine catalysts and Doverphos-10 (100% TPP). In March 2004, the patient spilled undiluted Doverphos-10 on his abdomen and forearms. Within 4 days, a burning dermatitis appeared that later became itchy and spread to the upper chest, neck, and arms. With topical treatment the lesions slowly resolved over 1 month. Twice the patient returned to work and, without obvious contact, developed within 4 hours a pruritic urticarial eruption involving the previously affected areas.
Patch testing was done in October with the NACDG Standard Series, a Glues & Adhesives Series (includes triphenyl phosphate), and with Doverphos-10 2.5% and 1.25% pet. 4 controls had no reactions to these concentrations of TPP. At D2 and D4, the patient showed a 1+ reaction to Doverphos-10 2.5%.
Discussion: TPP is used as a stabilizer in various polymer resin systems (phenolic, polyethylene, polyvinyl, polyurethane and polyolefins). It confers heat resistance to the finished product and prevents discoloration. In the pipes made by our patient, its main use was as flame retardant. It is irritant and neurotoxic (1). Case reports of allergic contact dermatitis (ACD) to triphenyl phosphate have been reported. However, only one case of ACD and one of contact urticaria to TPP has been described (2, 3). Our patient developed irritant contact dermatitis followed by the development of ACD. In the absence of documented exposure, we are unable to prove that the subsequent events were contact urticaria to TPP.
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Notes:

PREVALENCE OF LATEX ALLERGY IN DENTAL PROFESSIONALS IN JAPAN AND THE UNITED STATES

C.P. Hamann[1]; C. Siew[2]; K. Nakajima[3]; M. Matsumura[3]; S.E. Gruninger[2]; Iwata[4]; H. Miura[4]; P.A. Rodgers[1]; K. Sullivan[1]
[1] SmartPractice, Phoenix, AZ 85008; [2] ADA Health Foundation, Chicago, IL; [3] Department of Fixed Prosthodontics, Tokyo Medical and Dental University, Tokyo, Japan; [4] Dental Health Associates, Tokyo, Japan;

Little data exists on the international prevalence of type I allergies to natural rubber latex (NRL) in dental personnel. *Objectives:* To survey type I NRL allergy prevalence in dental professionals attending either the 2004 Japan Academy of Gnathology or 2004 American Dental Association meeting. *Methods:* Per approved research protocols, participants completed a health history questionnaire, and were skin prick tested (SPT) for type I NRL allergy using histamine, NRL standard (Stallergenes), and saline.

Results & Conclusion:

Dental Professionals, Japan (n=240)	**% SPT**	**Dental Professionals, U.S. (n=835)**	**% SPT**
Dentists (n=89)	(+) 4.5 (N=4) (-) 90 (N=80)	Dentists (608)	(+) 3.6 (N=22) (-) 96 (N=586)
Hygienists (n=122)	(+) 6.6 (N=8) (-) 90 (N=110)	Hygienists (227)	(+) 3.5 (N=8) (-) 96 (N=219)

Prevalence of type I NRL allergy was less than 7% in all populations, but may be highest in Japanese hygienists.

Notes:

UNEXPECTED EXPOSURE TO NICKEL IN ELECTROPLATING

Wolkerstorfer A, Kamphof WG, Rustemeyer T, Bruynzeel DP

VU University Medical Center, Amsterdam, The Netherlands

Department of Occupational Dermatology

Skin problems were reported in an electroplating factory. This small and very specialized factory “never” reported any skin problems in their employees until electroplating with nickel became 60% of the workload.
A 58-year-old mechanic involved in maintenance of the machinery developed dermatitis on the hands and forearms. Patch tests showed that he was allergic to nickel (sulfate) and tin (stannous chloride). Working on nickelplating machinery did not seem to cause an exacerbation of dermatitis. However, he noticed aggravation when working on the rail system attached to the ceiling of the work floor.
In the same company a secretary had recently developed eczema of the hands. She was known to be nickel positive but never had any complaints except of the earlobes when wearing “cheap” earrings. Normally she would not come on the work floor but handled notifications, received from the work floor-manager.

In both patients the way of exposure was unexpected: airborne and precipitation of nickel and via contamination of paper. The nickel spot test helped to determine the route of exposure.

Notes:

POOR CORRELATION BETWEEN STATED AND FOUND CONCENTRATIONS OF ISOCYANATES IN PATCH-TEST PREPARATIONS

Malin Frick[1], Erik Zimerson[1], Daniel Karlsson[2], Åsa Marand[2], Gunnar Skarping[2], Marléne Isaksson[1], Magnus Bruze[1]. Dept. of Occupational and Environmental Dermatology, Malmö University Hospital, Malmö, Sweden[1]. Work Environment Chemistry, Stockholm University, Hässleholm, Sweden[2].

Objectives: Previous reports on isocyanate-related contact allergy have shown a pattern where patients react to their isocyanate-based work materials but not to commercial patch-test preparations of isocyanates. Therefore, we suspected that the commercial preparations were inadequate.
Materials and Methods: Preparations of diphenylmethane-4,4'-diisocyanate (MDI), 2,4-toluene diisocyanate (TDI), 1,6-hexamethylene diisocyanate (HDI) and isophorone diisocyanate (IPDI) from 9 European and 4 American dermatology departments as well as from 2 suppliers of patch-test allergens were analyzed. They were considered stable if the ratio between stated and found concentration was within the range of 0.8-1.2.
Results: Only 1 of the MDI-preparations came close to the acceptable range with a ratio of 1.5. In all other cases the ratios were way off range sometimes up to a thousand times lower than declared. The preparations of TDI, HDI and IPDI appeared more stable and although 28 out of 36 investigated preparations had ratios off range they were at least in the vicinity of it.
Conclusion: 25 out of 50 preparations were analyzed before the expiry date. Yet, only 8 were within the acceptable range. Thus, using these preparations patients will be tested with a lower concentration than intended which might lead to false-negative patch-test reactions.

Notes:

OCCUPATIONAL ALLERGIC CONTACT DERMATITIS FROM SODIUM LAUROYL SARCOSINATE IN THE LIQUID SOAP

Alexander Zemtsov, MD, MSC
Deborah Fett, MD

Case report: 41-year-old Nurse, developed acute severe eczematous reaction on her hands, face and neck. . Patient thought that her dermatitis always developed after required out-of-town hospital rotation and possibly related to soap used at that particular hospital. Open and unocluded patch test showed +3 bullous reaction Acute Kare soap manufactured by Steris Company. The patient was patch tested with individual ingredients. A repeat patch test showed +3 bullous reactions to ingredient G which was disclosed to be 30% aqueous solution of sodium lauroyl sarcosinate. Once the patient stopped using Acute Kare soap, her symptoms immediately resolved and she has remained symptom-free for the past nine months. Comment: Allergic Contact Dermatitis to wash off products such as soap is uncommon, but has been reported including report by these authors. Sodium lauroyl sarcosinate is a surfactant – cleansing agent widely used in soap, shampoos and body washes. According to the FDA data, sodium lauroyl sarcosinate has been used in at least 118 cleansing formulations. We believe this is the first literature report of Allergic Contact Dermatitis to sodium lauroyl sarcosinate.

Notes:

THE ROLE OF MENTORING IN THE FIELD OF CONTACT DERMATITIS

Melanie Pratt, MD
Alexander Fisher Lecture 2005

The role of mentoring residents is critical in the field of contact dermatitis since many programs do not cover patch testing in depth. Dr Pratt will discuss various cases from the Ottawa clinic that she investigated with her residents and medical students. The cases are intriguing from a clinical point of view and will demonstrate the importance of mentoring in the field of contact dermatitis.

Internationally recognized as an expert in Contact Dermatitis, Dr. Pratt is an associate professor of medicine in the division of Dermatology at the University of Ottawa. She runs a busy patch and occupational contact dermatology clinic where she assesses approximately 600 patients annually

Dr. Pratt is a past president of the ACDS and presently president of the Canadian Contact Dermatology Group. She runs an annual Contact Dermatitis session at the annual Canadian Dermatology Association meeting. She is a member of the NACDG and also an consultant for the ODSU (Occupational Disease Specialty Unit) which is part of WSIB of Ontario.

Dr. Pratt frequently hosts external dermatology residents from across North America with an interest in Contact Dermatitis electives. Many of these residents are funded by either the American Contact Dermatitis Society's Mentoring Program or by the Women's Dermatological Society.

The Alexander Fisher Lectureship is awarded in honor of Alexander Fisher, MD honoring his contributions to the field of contact dermatitis. The lecturer is selected based on his or her contributions to contact dermatitis, reflection of the spirit of Dr. Fisher's enthusiasm for the subject of contact dermatitis, and for sharing knowledge and experience in evaluating patients.

Notes:

CUTANEOUS REACTIONS TO SILICONE

Tyler Nelson(1), Anthony A Gaspari, MD(2), Douglas L Powell, MD(1)
1-Department of Dermatology, University of Utah, Salt Lake City, Utah
2-Department of Dermatology, University of Maryland, Baltimore, Maryland

First used medically in the 1940's to waterproof wound dressings, silicone has subsequently been used extensively in the medical field for implants, coatings of implants, coating insertion devices, prostheses. It is even more widely used in personal care products that are available to all. The reason for it's liberal usage has been the rationale that silicone is quite inert, however, there have been cases reported of immune reactions to silicone throughout the literature and a number of studies have been performed attempting to verify some of the adjuvancy potential of silicones. Multimillion-dollar lawsuits have raged over the possibility of systemic reactions to silicone breast implants, never-the-less, debates continue regarding the veracity of the ability of silicones to create immune responses.

We present cases of varied immune reactions to silicone products: 1) two patients with allergies to cyclic silicone in antiperspirants (one delayed-type hypersensitivity and one contact urticaria), 2) a patient with a granulomatous reaction to a water-soluble silicone used in catheters which demonstrated clinical adjuvancy, and 3) a patient with contact urticaria to silicone breast implants as shown by scratch testing and patch testing.

We will briefly discuss the types of reactions that are reported in the literature along with these cases with the purpose of demonstrating that reactions to silicone might be an under-recognized phenomena, thus shedding light on some previously unexplained reactions. The sheer volume of usage of silicone would indicate that it is typically safe in it's current usage, but further studies would be beneficial in delineating which forms of silicone would be safe or how severe reactions could be avoided.

Notes:

PROCLIVITY TO CUMULATIVE SKIN IRRITATION: DEPENDENCE UPON AGE AND SEX

Klaus-Peter Wilhelm, proDERM Institute for Applied Dermatological Research, Schenefeld/Hamburg, Germany

Objective: To evaluate differences between sexes and the age dependency of cumulative skin irritation.

Methods: Two different cumulative irritation study designs performed during a 1-year-period were analyzed retrospectively: 1) 29 studies with 450 volunteers with 4 repeated 24 h occlusive applications on the back. 2) 14 soap chamber studies with 237 volunteers with 4 occlusive applications to the volar forearm. The standard protocols of these studies were IRB approved.

Results: In the first study design there was a minimal, statistically not significant, negative correlation (-0.082, $p<0.083$) between irritation response and age (age range: 18-80). Males demonstrated slightly, statistically not significant, mean lower irritation scores than females (2.20 vs. 2.41, $p<0.085$).

In the soap chamber test there was a statistically significant negative correlation between age and skin irritation as quantified by TEWL measurements ($r = -0.197$; $p<0.01$). Women had a significantly higher TEWL increase than men (21.7 vs. 16.5, $p<0.013$).

Conclusions: This analysis of a large number of studies in a high number of subjects indicates an increased irritability of females vs. males and young vs. aged skin.

Notes:

BACK TO BASICS: IN CALCULATING PATCH TEST REACTIONS, SHOULD MACULAR ERYTHEMA AND LESSER REACTIONS BE INCLUDED?

Mark DP Davis, James A Yiannias MD
Department of Dermatology, Mayo Clinic Rochester and Mayo Clinic Scottsdale, USA

Background: Published patch testing results often exclude reactions graded as 'macular erythema' or less ('lesser' patch test reactions).

Aim: To investigate the prevalence of lesser reactions in patch test results and their relevance

Methods: 2823 patients were patch tested to the standard series between Jan 2001 and June 2004. A total of 195,420 allergens were applied. Reactions were interpreted using the method specified by NACDG.

Of the 7694 reactions that were graded as allergic, 3339 (43.4%) were macular erythema or less. Of these reactions, 2430 (72..8%) were graded as relevant or of questionable or past relevance.

The overall positivity rate of calculated allergic reaction to allergens varies depending on whether the lesser patch test reactions are included. If the calculations exclude these reactions, the overall rate is 2.2% positives. If the calculations include these lesser reactions, the rate of positivity increases to 3.9%. If the calculations include only those lesser reactions deemed to be of relevance (definite, questionable, past relevance), the rate was 3.5 %.

Conclusion: Lesser patch test reactions are common and are often of clinical relevance. Consideration should be given to including these reactions when reporting patch test results.

Notes:

EVOLUTION OF CLINICAL PATTERN OF PARTHENIUM DERMATITIS : A STUDY OF 74 CASES

Vinod Kumar Sharma, Gomathy Sethuraman, Radhakrishna Bhat, Department of Dermatology and Venereology,
All India Institute of Medical Sciences, New Delhi 110 029, India

Back ground: Parthenium dermatitis is the commonest cause of plant dermatitis in India.

Aim: To study the evolution of clinical pattern of parthenium dermatitis.

Methods: Patients with clinical picture consistent with parthenium dermatitis for 3 years or more along with positive patch test to parthenium were recruited. Patients were questioned regarding site(s) of dermatitis at onset and change in localization in following years. Patients were classified into air borne contact dermatitis (ABCD), chronic actinic dermatitis (CAD) or mixed pattern.

Results: There were 74 patients (49 males and 25 females) with an age range of 22-70 years, mean duration of 7.7 years. Sixty (male 39, female 21) patients had ABCD, 5 mixed pattern and 9 CAD at the onset. Of the 60 patients with ABCD, 27 (male 19, female 8) changed to CAD and 11 (male 6, female 5) to mixed pattern after an average period of 4.2 years. Of the 19 patients photopatch tested with parthenium, 3 showed photoallergic reaction and the other 3 showed photo-aggravation.
Conclusion: The clinical pattern of parthenium dermatitis undergoes significant change after onset i.e progress from ABCD to CAD or mixed pattern.

Notes:

IN-VIVO CONFOCAL MICROSCOPY OF CONTACT DERMATITIS

Susanne Astner[1], Ernesto Gonzalez[2], Kirsty J. Swindells[1], Nadine Burnett[1], Salvador González[1]
[1]Wellman Laboratories of Photomedicine, [2]Contact Dermatitis Unit, Massachusetts General Hospital, HMS, Boston MA

Reflectance-mode confocal microscopy (RCM) has previously been used to describe allergic and irritant contact dermatitis (ACD and ICD) non-invasively and in vivo.

Kinetic changes of ACD and ICD, ethnic differences of ICD and preliminary sensitivity and specificity were evaluated using RCM.

Subjects were patch-tested with allergens, irritants and controls. Clinical scoring and RCM were performed at different time points, assessing stratum corneum (SC) disruption, spongiosis, exocytosis, vesicle formation and epidermal thickness.

SC-disruption, epidermal necrosis and hyperproliferation are hallmarks of ICD; ICD showed more rapid recovery than ACD. At selected Ivory soap concentrations Caucasians showed significantly lower clinical thresholds for ICD and features were more severe when compared to African-Americans. Individual RCM Parameters showed high sensitivity (>95.8%) and specificity (> 92.6%).

In summary, RCM could be a promising tool for longitudinal studies of CD. Our findings indicate ethnic variability to irritants, suggesting that African-American skin may be more resistant to contact irritants. The high preliminary sensitivity and specificity of selected RCM parameters prompt the integration of relevant features into diagnostic algorithms.

Notes:

CONTACT ALLERGY TO METALS AFTER PERCUTANEOUS TRANSLUMINAL CORONARY ANGIOPLASTY (PTCA) AND STENTING

Svedman C, Holmström E, Möller H, Ekqvist S, Gustavsson C-G*, Kehler M**, Pripp CM***, Gruvberger B, Björk J****, Bruze M.
Department of Occupational and Environmental Dermatology and * Department of Cardiology, Malmö University Hospital, Malmö, Sweden, ** Department of Radiology, Lund University Hospital, Lund, Sweden, ***Department of Thoracic Surgery, Blekinge Hospital, Karlskrona, Sweden, ****Region Skåne centre of Competence, Lund, Sweden.

In patients with cardiovascular disease PTCA and stenting is a common procedure. The stents are usually made of stainless steel but new materials are frequently tested. Restenosis does occur and some data indicate that contact allergy to stent material might be a contributing factor.
We performed a retrospective study on 484 patients, demographically and clinically comparable, 12-30 months after PTCA and stenting. All stents were made of stainless steel (nickel containing) and anatomically and functionally identical but some were coated with gold. The patients, mean age 67 years (male:female 4:1), were patch-tested and as controls served 474 patients, sex- and age-matched, with suspect contact dermatitis.
We found that 44% of the females were allergic to gold versus 15% in the control group ($p<0.001$). 29% were allergic to nickel versus 13% ($p=0.007$). Among the males the figures for gold were 33% versus 18% ($p<0.001$) and for nickel 7.6% versus 4.3% ($p=0.06$). The frequency of other contact allergies was not higher among the patients than among controls. There were significantly higher rates of nickel allergy in the nickel-stented group with regard to females and the tendency was the same for men. Gold allergy was frequent also in the nickel -stented group. The restenosis rate was higher in the group with gold-coated stents.

Notes:

PATCH TESTING TO THE DUST MITE (*DERMATOPHAGOIDES* MIX, 0.1% PREPARATION): HIGH RATE OF REACTION IN BOTH ATOPIC AND NONATOPIC PATIENTS

Mark D. P. Davis, MD[1], Janet F. Cheng, MD[2], James A. Yiannias, MD[3]
[1]Department of Dermatology, Mayo Clinic, Rochester, MN, USA; [2]Department of Dermatology, Mayo Clinic, Jacksonville, FL, USA; [3]Department of Dermatology, Mayo Clinic, Scottsdale, AZ, USA

Background We have previously reported a high rate of reaction to a 20% *Dermatophagoides* mix added to our standard patch test series.

Objective To determine the rate of reaction to a lesser concentration (0.1%) of *Dermatophagoides* mix and to compare the rate of reaction in atopic patients and nonatopic patients.

Methods *Dermatophagoides* mix 20% (Chemotechnique Diagnostics, Malmö, Sweden) was diluted to a 0.1% preparation in petrolatum and added to the standard patch test series at Mayo Clinic during a 2-year period.

Results Of the 1,582 patients who had patch testing to *Dermatophagoides* mix 0.1%, 108 (6.8%) had a reaction at 96 hours. The rate of reaction to *Dermatophagoides* mix 0.1% was not significantly increased in the atopic patients compared with the nonatopic patients (*P*=.16).

Conclusion Patch testing to the lower concentration of 0.1% *Dermatophagoides* mix is associated with a lower rate of reaction at 96 hours than the 20% preparation. The rate of reaction was still higher than that of most other allergens on the standard series. Intriguingly, the rate of reaction to *Dermatophagoides* mix 0.1% was not statistically higher in patients with a personal history of atopy.

Notes:

CONTACT SENSITIVITIES IN ORAL DISEASE

Rochelle R. Torgerson MD, PhD , Mark Denis P. Davis, MD, Alison J. Bruce MD, Sara A. Farmer MS and Roy S. Rogers III MD. Department of Dermatology, Mayo Clinic College of Medicine, Rochester, MN

Background: The value of patch testing in oral diseases has been debated.

Objective: To document our experience with patch testing in the context of oral diseases.

Methods: A retrospective analysis of patch testing in patients with oral diseases at Mayo Clinic between May 2000 and April 2004.

Results: Patch testing was performed on 331 patients with the following oral diseases or symptoms: burning mouth syndrome(43.8%), lichenoid tissue reaction(17.8%), cheilitis(16.3%), stomatitis(8.2%), gingivitis(7.6%), orofacial granulomatosis(3.9%), perioral dermatitis(1.5%) and recurrent aphthous stomatitis(0.9%). 212 (64%) had at least one positive patch test result. The top ten most frequently positive allergens were potassium dicyanoaurate(23.1%), nickel sulfate(16.1%), gold sodium thiosulfate(15.1%), balsam of Peru(14.9%), fragrance mix(14.6%), palladium chloride(12.6%), potassium dichromate(9.7%), mercury(9.5%), dodecyl gallate(9.3%) and benzoic acid(8.6%). Of 620 positive reactions to allergens, 341(55%) were of definite relevance, 236(38.1%) of questionable relevance and 23(3.7%) of past relevance.

Conclusion: Patch testing is often positive in patients with oral diseases. Positive reactions to metals, fragrances and preservatives were commonly observed.

Notes:

POSTER PRESENTATIONS

SHORT-TERM EFFECTS OF ALCOHOL-BASED DISINFECTANT AND DETERGENT ON SKIN IRRITATION.

Kynemund Pedersen L[1], Held E[1], Johansen JD[1] and Agner T[2]
[1]National Allergy Research Centre, Gentofte Hospital, University of Copenhagen, Denmark
[2]Department of Dermatology, Gentofte Hospital, University of Copenhagen, Denmark

The most important risk factor for occupational contact dermatitis in hospital personnel is the exposure to irritants such as e.g. Water, detergents and alcohol-based solutions. This study was undertaken to evaluate the effects of repeated exposure to an alcohol-based disinfectant, to a detergent and to an alcohol-based disinfectant/detergent alternately.
Materials and methods: Detergent, disinfectant and disinfectant/detergent alternately were applied daily every 15 minutes for 6 hours for 2 days to the ventral upper arms and forearms of 15 volunteers. A control area was included. Irritant reactions were quantified by a visual score, transepidermal water loss (TEWL) and skin color at baseline, D3 and D8.
Results: Visual score was higher for skin exposed to detergent than for skin exposed to disinfectant applied alone and disinfectant/detergent alternately at D3 and D8, $p<0.001$ and $p<0.001$, respectively. An increased irritant response for detergent as compared to disinfectant alone and disinfectant/detergent was confirmed by TEWL and color evaluations (p-values = < 0.01).
Conclusion: Hand disinfection with alcohol-based disinfectant or alternate use of disinfectant/detergent causes less skin irritation than hand disinfection with a detergent. More long-term studies are necessary before final recommendations can be made.

Notes:

INFLUENCE OF VEHICLES ON IRRITANT PATCH TEST REACTIONS DUE TO SEVERAL COSMETIC INGREDIENTS

Susun An [a], Eunyoung Lee, Seongjoon Moon, Ihseop Chang, Hee Chul Eun[b],
[a]AmorePacific Corporation R&D Center, Yongin, Korea, [b]Department of Dermatology, Seoul National University College of Medicine, Seoul, Korea

It is well known that selection of vehicle is important for the evaluation of irritant potency of cosmetic ingredients. Petrolatum, water, ethanol are frequent vehicle substances being used for patch test. As cosmetic ingredients have variable chemical characteristics, we think it is worthful to investigate whether different vehicles are more efficient than commonly used vehicle substances for the detection of skin irritancy potential.
To know the influence of vehicles on the irritant patch test reactions, we have patch tested on the back of 15 normal human volunteers with 10 different cosmetic ingredients. Each ingredient was diluted with 2-3 different vehicles (total 10 vehicles) Patch test responses were read 48hr after application. For test evaluation, we have used visual scoring method as well as bioengineering tools, transepidermal water loss measurement and laser Doppler image analysis.
Oil soluble substances showed increased irritant reactions when tested in polar oil vehicles. Variable irritant reactions were observed by different vehicles of similar chemical characteristics. It is suggested that different vehicle substances may be necessary for the assessment of irritant potency in the limited cosmetic substances. In conclusion, we think it is necessary to select a proper vehicle for the evaluation of irritant potency of certain cosmetic substances.

Notes:

A DOUBLE-BLIND, RANDOMIZED, PLACEBO-CONTROLLED TRIAL COMPARING TOPICAL IMMUNOMODULATING AGENTS AND CORTICOSTEROIDS FOR TREATMENT OF EXPERIMENTALLY INDUCED NICKEL CONTACT DERMATITIS.

Sachin Bhardwaj, MD, Erin Warshaw, MD
University of Minnesota, Minneapolis, MN

Specific Aims

The primary objective of this double-blind, randomized, controlled study was to obtain pilot data regarding the relative efficacies of pimecrolimus 1% cream, tacrolimus 0.1% ointment, clobetasol propionate ointment, and triamcinolone acetonide 0.1% ointment, as compared to placebo, for treatment of experimentally induced nickel contact dermatitis.

Methods

23 nickel-sensitive volunteers participated. Three freshly prepared nickel antigen patches were applied for 48 hours to each upper outer arm utilizing alternate finn chambers.. Baseline measurements were recorded at 96 hours utilizing a global assessment based on the NACDG standard reading guidelines. Subjects then applied study medications to a specified location twice daily for two weeks according to a computerized randomization. schedule to which both the investigator and patient were blinded.

Follow-up readings were performed on days 8, 10, 12, 15, 17 and 19.

Results

No significant differences were detected between any of the study medications. Possible explanations include: diffusion of medication to adjacent sites, inadequate sample size, or inadequate experimental model. The most likely explanation for this is that the sites were each too close to one another, disallowing a detection of difference when one was expected.

Notes:

MORINGA OLEIFERA LEAF EXTRACT AS ACTIVE ANTIBACTERIAL PROPERTY IN A BAR SOAP: A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED TRIAL

Jeaniesar B. Caluag, MD Normita Chua-Vivar, MD, Gracia B Teodosio, MD Teresita G. Gabriel, MD.
Section of Dermatology, Research Institute for Topical Medicine, DOH Compund, Alabang, Philippines.

The study aimed to determine the antibacterial activity of *M. oleifera* leaf extract (MOLE) in a hard soap formulation against resident skin flora and transient-highly pathogenic organisms in comparison with a triclosan containing soap and a placebo.

The study consisted of two phases. Phase 1 determined the MIC and MBC of M. oleifera against both *S. epidermidis* and *S. Aureus*. Two hard soaps were formulated containing Moringa oleifera leaf extract 2.5% and 5% respectfully.

In Phase II clinical trial a double-blind, placebo-controlled, pre-test-post-test design was employed. 360 healthy subjects were randomly assigned into 2.5% MOLE, 5% MOLE, placebo, and triclosan-containing soap groups. Participants were asked to do a supervised one-minute handwash with swab specimens collected pre- and post-intervention.

Results showed that MOLE was inhibitory and bactericidal to *S. epidermidis* and *S. aureus* in-vitro. Furthermore, all treatment groups were effective in reducing the mean-bacterial colony count post-handwashing. Multiple comparisons test revealed that the 2.5% MOLE soap was efficacious in reducing the mean bacterial colony counts better than placebo, 5%, and triclosan. Only 0.5% of the subjects developed Cutaneous reactions to the MOLE soaps.

Hence, it is recommended as a better alternative to commercially available, chemical-based antibacterial soaps.

Notes:

DELAYED READINGS OF PATCH TEST REACTIONS TO TOPICAL CORTICOSTEROIDS: LOW YIELD

Mark DP Davis MD, Donna M Richardson BSN, RN, Sara A Farmer BA
Departments of Dermatology and Division of Biostatistics, Mayo Clinic Rochester, MN, USA

Background: Delayed readings of patch tests to corticosteroids have been recommended based on previous reports that up to 30% of patch test reactions will be missed if a delayed reading is not performed. At Mayo Clinic, we therefore instituted a policy that patients having patch testing to the corticosteroid series must return for a late reading at day 7-10 following placement of their allergens. This policy had logistical implications but was insisted upon.

Aim: To report our experience at Mayo Clinic of delayed readings (day 7 or beyond) of patch test reactions to the corticosteroid series.

Setting: Tertiary referral center

Methods: Retrospective review of patch testing results to corticosteroids since delayed readings were implemented (April 2001-June 2004)

Results: 135 patients had patch testing to a total of 1656 corticosteroid allergens. Of the 1656 allergens, 1630 had no reaction on day 5. Of those, only 1 person had a positive result to one corticosteroid allergen on the delayed reading (day 9 in this instance).

Conclusion: Delayed readings to corticosteroids was of limited value in our experience.

Notes:

A COMPARATOR STUDY OF AN ADJUNCTIVE DERMAL LIPID REPLACEMENT FOAM (RESTORADERM®) IN THE MANAGEMENT OF REFRACTORY HAND CONTACT DERMATITIS

Fowler JF, Perryman JH; U. of Louisville, Louisville, KY.

Background: Dermatitis (irritant, allergic, or both) is the most common occupational skin disease. Although many "barrier creams" with high concentrations of petrolatum are sold, none have shown consistent effectiveness.
Restoraderm is composed of an exclusive non-alcohol, water-based formulation of lipids that mimics the body's own natural skin barrier system. It contains ceramides, cholesterol, palmitic acid and two biologic precursors, mevalonic acid and hydroxycholecalciferol. It does not contain petrolatum, and is a non-greasy formulation. Many occupational hand dermatitis patients, find it difficult to work when using a product with petrolatum as it's greasy residue can negatively affect grip and impair the protection of latex gloves.
Objective: To measure the effectiveness of Restoraderm in reducing or eliminating chronic hand contact dermatitis. The primary endpoints were mean percent change from baseline in the Clinician's Global Assessment Score and mean change in frequency of topical steroid use.
Methods: Thirty-one patients were randomized to receive either Restoraderm or a comparator (ointment or lotion) at the baseline visit. Each patient received Restoraderm for a 3 week period followed by comparator or vice versa. There was a two week wash out between study phases.
Results: Restoraderm proved to be effective in reducing or eliminating chronic hand contact dermatitis caused by occupational exposures. It was preferred by patients over the comparators. The non-greasy foam formulation of Restoraderm may contribute to compliance, ease of use, and patient satisfaction in patients with chronic hand dermatitis.

This study was supported by an unrestricted grant from CollaGenex Inc.

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PARABEN "PARA-" DOXES

Marcos Hervella, Juan Ignacio Yanguas, María Eugenia Iglesias-Zamora, Mónica Larrea, Concepción Ros, Manuel Gállego.
SERVICIO DE DERMATOLOGÍA. HOSPITAL DE NAVARRA.
PAMPLONA. NAVARRA (SPAIN)

Introduction: allergic contact dermatitis to parabens is relatively infrequent, and its diagnosis is hindered by several inconsistencies or "paradoxes".
Methods and case report**:** a 28 year old caucasian woman consulted a 15 year history of cosmetic intolerance, with acute, dramatic outbreaks of dermatitis every time she applied any cream or make-up. In the last two years she would not tolerate any sunscreens neither, so she lived a life of absolute cosmetic avoidance, including all soaps and the so-called hypoallergenic products.
The patch tests revealed a weak sensitisation to the paraben mix, and specifically to butylparaben, that was considered clinically relevant. Relevant strong positive reactions were also found to the sunscreen agents octyl dimethyl-paba (eusolex 6007^{tm}) and ethylhexyl-4-methoxycinnamate (parsol mcx^{tm}), two para-aminobenzoic acid (paba)-related molecules. No reaction to paba itself or other para group derivatives was found. The photo patch tests were negative.
Conclusions: The classic "paraben paradox" is now rarely seen, and this case illustrates the most common picture of paraben allergy at the present time: sensitisation through contact with cosmetics, and subsequent intolerance of even minimal concentrations of parabens. This situation implies that even weak positive patch test reactions to this preservatives must be traced for relevance. Other paraben "paradoxes" are: the (in-)frequency of cross-reactions to PABA derivatives and other related molecules, and the rarely described association with photo allergy.
KEY WORDS: PARABEN (4-HYDROXYBENZOATE), ALLERGIC CONTACT DERMATITIS, CROSS-REACTION, ETHYLHEXYL DIMETHYL-4-AMINOBENZOATE (OCTYL DIMETHYL-PABA, EUSOLEX 6007^{TM}), ETHYLHEXYL-4-METHOXYCINNAMATE (PARSOL MCX^{TM})

Notes:

PATCH TESTING IN CHILDREN WITH DERMATITIS

Soogan C Lalla, David J Gawkrodger
Royal Hallamshire Hospital, Sheffield, England

AIMS: to investigate the usefulness of patch testing to confirm or exclude contact allergy in children referred for patch testing over 12 months from a tertiary children's hospital in Sheffield, England. METHODS: A retrospective case study of all children who underwent patch testing from October 2001 to October 2002. Data collected included indications for patch testing, relevant positive allergens, irritant reactions, the relationship to atopy, and ascertainment if investigations confirmed or excluded a contact allergy. RESULTS: Patch tests were conducted in 30 children, 17 girls and 13 boys, mean age 9.3 years. Indications for patch testing were: persistent atopic eczema (11), suspected sensitivity to topical treatment (3), facial/ear eczema (9), foot dermatitis (4), and other (3). Ten patients had one or more allergic positive reactions in whom 9 had relevant positives. The commonest allergens were neomycin, wool alcohols and bronopol. Nine patients, 6 of whom were atopic, showed irritant reactions (to 11 substances, the commonest being chromate and nickel). CONCLUSIONS: Patch testing was a helpful investigation in almost all patients, confirming allergy in 9 patients and excluding it in 22.

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A STUDY OF INFLUENCING FACTORS FOR SENSORY IRRITATION DUE TO PRESERVATIVES OF COSMETICS

Eunyoung Lee, Susun An, Seongjoon Moon, Ihseop Chang, Hee Chul Eun*
AmorePacific Corporation R&D Center, Yongin, Korea,
*Department of Dermatology, Seoul National University College of Medicine, Seoul Korea

Sensory irritation is one of the important side effects of cosmetics and it is required to develop new products which are more tolerable to the consumers. There are lots of cosmetic ingredients known to induce sensory irritation such as lactic acid, glycolic acid, ethanol, preservatives, fragrances and menthol. It is also known that sensory irritation increases by change of pH as well as additional occlusive conditions.
The aim of this study is to know various factors affecting sensory irritation due to preservatives (methylparaben, propylparaben, phenoxyethanol and chlorophenesin). We wanted to investigate the effect of preservatives to sensory irritation according to change of formulations and pH.
To evaluate the sensory irritation, test materials were applied on the asolabial folds and cheeks in the normal human volunteers. Stinging, burning and itching scores based on a 4-point scale were recorded and compared between tested sites and the control sites.
Our result showed that sensory irritation increased with the conditions of increasing absorption such as packs and decreased by changing pH of the formulas. We have also found that sensory irritation increased synergistically by applying two different preservatives together.
In conclusion, absorption capacity, pH change and combination of different preservatives should be considered to reduce the unwanted sensory irritation of preservatives.

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COMMON CONTACT SENSITIZERS IN ANKARA,TURKEY. A STUDY OF 1585 PATIENTS WITH THE EUROPEAN STANDARD SERIES

ATAHAN C. MD, ONDER M.MD, GURER MA.MD, Gazi University School of Medicine Dept of Dermatology Ankara-Turkey

In this study, a total of 1585 patients (414 were male 1171 female) between the periods of January 1998 and December 2003 and who were tested with the patch test with the consideration of contact dermatitis were retrospectively evaluated. Patch tests were conducted with the 24 material Standard European Series with an additional series in 43 cases, photopatch test series in 56 cases and personal materials brought by 1239 cases. Contact dermatitis was found to be most frequent on the hands with most sensitization occurring with nickel sulphate.

In our study, materials like chloromethylthiazoline, wool alcohols, IPPD,mercaptomix, ethylenediaminehydrochlorid, formaldehyde and colophony were found to be rare positive. No positive reaction could be obtained with mercaptobenzothiazoline and pyrimine. Hence, the necessity of the use of these allergens in standard patch test series in our country remains to be elucidated by similar studies to be conducted.

Notes:

CONTACT DERMATITIS TO LATANOPROST

Dr Mario Cezar Pires, Dra Rosana Neves dos Santos Rodrigues
Hospital do Servidor Público Estadual – São Paulo
City: São Paulo; State: São Paulo; Country: Brazil

A 24 years old female with glaucoma had a 2 months history of eczematous lesions in eyelids. She was using latanoprost ophthalmic. The other ophthalmic solutions used before didn't control the ocular pressure and didn't cause contact dermatitis. Patch testing with Brazilian patch test series was performed and no positive reactions occurred. The patient improved after surgery when she stopped latanoprost. Nowadays she is using timolol ophthalmic. Both medications had benzalkonium chloride in its composition, but the contact dermatitis was controlled. We concluded that latanoprost was the antigen of the contact dermatitis.

This report is the second known case of contact dermatitis to latanoprost.

Notes:

CONTACT DERMATITIS IN CHILDREN

Dr Mario Cezar Pires, Dra Rosana Neves dos Santos Rodrigues
Hospital do Servidor Público Estadual – São Paulo
City: São Paulo; State: São Paulo; Country: Brazil

The authors are describing 4 cases contact dermatitis in children. The first child a 4 years old girl with eczematous in the fist when she had used watch. Patch testing became positive result to nickel sulphate. The second one a 3 years old boy presented an acute itchy eruption in the forearm. One month earlier he had done a henna tattoo applied on his left forearm. Patch testing was positive to para-phenylenediamine. The third case a 3 years old boy had erythema in both plantar regions after he had used a rubber sandal. In this case patch testing was negative. The last one a 2 months old boy had an acute eczematous in periumbilical region 2 days after he had used Fibrase (Ache). This child had used the same medication with 5 days of born. No patch testing was performed.

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PHOTOALLERGIC CONTACT DERMATITIS FROM KETOPROFEN IN SOUTHERN SWEDEN

Monica Hindsén, Erik Zimerson, Magnus Bruze. Department of Occupational and Environmental Dermatology, Malmö University Hospital, Malmö, Sweden

Objective: In Sweden ketoprofen has been available for topical application since 1995. Photoallergic contact dermatitis from ketoprofen has been reported since almost 20 years. Photoallergic contact dermatitis from ketoprofen-containing topical treatment usually includes severe eczematous reactions. Ketoprofen is a NSAID derived from propionic acid. Ketoprofen, fenofibrate and benzophenones are similar structurally.

Methods: Photopatch testing and patch testing with 2 standard series, the ketoprofen-containing gels and their ingredients, fenofibrate and benzophenones.

Results: During the last years 35 patients have been photopatch tested with ketoprofen with very strong photopatch test reactions. 26/35 patients also had positive reactions to fentichlor. 27 of the patients were photopatch tested with fenofibrate and 13 had positive reactions. 17/30 patients had positive reactions to benzophenone-3 and 6/28 also had positive reactions to benzophenone-10. 0/28 were positive to benzophenone-4.15/35 had positive patch test reactions to balsam of Peru and 14/35 to fragrance mix. Patients have complained about increased light sensitivity in the earlier affected area for several months and in one case up to a year. In several cases ketoprofen-contaminated personal objects have caused relapses of dermatitis.

Conclusion: Ketoprofen is a strong photosensitizer.

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American Contact Dermatitis Society Cocktail Reception

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Important ACDS Dates

Feb. 17, 2005	**The ACDS Annual Meeting**, New Orleans, LA
April 15	**Mentoring Award** applications due.
July 6-9	**8th Contact Dermatitis State-of-the-Art Conference,** Hershey, PA
August 15	**Mentoring Award** applications due.
September 1	**Nominations** for ACDS Board of Directors and President-Elect due.
December 1	**Abstract Submissions due for 2006 ACDS Annual Meeting**
December 1	**Maibach Travel Award** applications due.
December 1	**Alexander A. Fisher Resident Award** applications due.
December 1	**Clinical Research Fellowship** applications due.
December 15	**Mentoring Award** applications due.

Upcoming Meetings

July 6-9, 2005	**8th Contact Dermatitis State-of-the-Art Conference**, Hershey, PA
March 2, 2006	**ACDS Annual Meeting,** San Francisco, CA

American Contact Dermatitis Society
138 Palm Coast Parkway NE #333
Palm Coast, FL 32137
Tel 386 437-4405 / Fax 386 437-4427
Email: info@contactderm.org
Web site: www.contactderm.org