



American Contact Dermatitis Society 19th Annual Meeting

January 31, 2008

San Antonio Marriott Rivercenter

San Antonio, TX

Registration

7:00 AM – 4:30 PM Registration Open – Outside Salon H, I and J. Pick up badges, register on-site

7:00 AM – 8:30 AM Light Breakfast Served in Salon J

7:30 AM – 8:15 AM Breakfast Symposium in Salon I

7:30 AM **Breakfast Symposium: Facial Dermatoses** (Salon I)

Guest Speaker: David Cohen, MD

Supported by a grant from CollaGenex.

Morning Sessions

8:30 AM **Welcome to General Session** (Salon H)

Susan Nedorost, MD – Chair, ACDS Annual Meeting

12:00 AM **Fisher Abstract Presentations**

Moderator: Matt Zirwas, MD

8:35 AM **Joseph Doumit, B. Eng***

Comparative Study of IQ and Finn Chambers Test Methodologies in Detecting Ten Common Standard Allergens That Cause Allergic Contact Dermatitis

8:45 AM **Morgan Lee Wilson, MD***

Comparative Longevity of Three Marking Pens Used in Patch Testing

8:55 AM **David Rosmarin, MD***

A Case Series of Eleven Patients Patch Tested While On Systemic Immunosuppressants

9:05 AM **Jason Bentow, MD, MS***

A Light Emitting Mouse to Image Skin Inflammation

9:15 AM **Ketaki Bhate, MD***

Genital Contact Dermatitis: A Review and Retrospective Analysis

9:25 AM **Laura Michelle Furda, BA, Medical Student***

Anogenital Dermatitis in Patients Referred for Patch Testing: Retrospective Analysis of Cross-Sectional Data, NACDG, 1994-2004.

9:35 AM **Vaneeta Marwaha Sheth, MD***

Post-Operative Topical Antimicrobial Use: A Review of the Literature and Guidelines for Use

9:45 AM **Lilla M Landeck, MD***

Contact Allergens in Different Stages of Life: Observations of Patch Test Data 1996-2006 from the MGH

9:55 AM **William Elliot Love, DO***

Fabric Preference in Atopic Dermatitis and Normal Skin

10:05 AM **Break: Visit Posters and Exhibits in Salon J**

Supported by a grant from Smart Practice Canada

10:35 AM *Fisher Abstracts Continued*

Allison Ehrlich, MD - Moderator

10:35 AM **Nina Christine Botto, BA, MS4***

Contact Dermatitis Associated With Food: A Retrospective Cross-Sectional Analysis from the

North American Contact Dermatitis Group 2001-2004

10:45 AM **Todd Vernon Clark, M.D.***
Contact Allergy to Clodertolone Pivalate (Cloderm) Cream 0.1% in a Patient With Allergies to Multiple Topical Corticosteroid Preparations

10:55 AM **Adam Asarch, BA***
Sorbitan Sesquioleate, a Common Emulsifier in Topical Corticosteroids, Is an Important Contact Allergen

11:05 AM **Cristina N Brau, BS***
Prevalence of Potential Allergens in Diaper Care Products

11:15 AM **Tatyana Shaw, MD***
A Rare Eyelid Dermatitis Allergen: Shellac in Great Lash Mascara

Fisher Occupational Abstracts

Joel Dekoven, MD
Moderator

11:25 AM **Sarah Elizabeth Schram, MD***
Occupationally-Related Contact Dermatitis in North American Healthcare Workers Referred for Patch Testing: North American Contact Dermatitis Group Data 1998-2004

11:35 AM **Sonya Julie Abdulla, Msc***
Hand Dermatitis Secondary to Methylchloroisothiazolinone/ Methylisothiazolinone in Mechanics

11:45 AM **Yvette Miller-Monthrope, MD***
Epoxy Dermatitis in the Workplace: What Standard Patch Tests May Be Missing

11:55 AM **Brandon George Howell, MD, Msc***
Two Concurrent Cases of Occupational Allergic Contact Dermatitis to Phenol Formaldehyde Resin Adhesives in the Wood Manufacturing Industry: The Use of Open Patch Testing to Raw Materials.

12:05 PM **Roundtable Luncheon – Salon I**
Supported by a grant from Chemotechnique/Dormer Laboratories

1:15 PM **Afternoon Sessions**

1:15 PM **Don Belsito, MD**
Allergen of the Year

1:25 PM **Presentation of Awards**

Rajani Katta, MD
Presentation of Fisher Resident Award
Endowed by the Lila Gruber Foundation

Ron Brancaccio, MD
Presentation of Maibach Travel Award

Maria Scherrer, MD
Clinical Research Award

Anthony Gaspari, MD
Mentoring

2008 Alexander Fisher Lecture

1:45 PM **Melanie Pratt, MD**
Introduction of Fisher Lecturer – Denis Sasseville, MD

1:45 PM **Denis Sasseville, MD**
Fisher Lecture: Phytodermatitis: An Overview

Afternoon Abstract Sessions

Susan Nedorost, MD

- Moderator
- 2:45 PM **Susun An, Master**
The Usefulness of in Vitro Skin Sensitization Test Evaluating CD54, CD86 Expressions On THP-1 Cells Induced By Contact Sensitizer
- 2:55 PM **Sharon Jacob, MD**
American Contact Alternatives Group ACDS Abstract
- 3:05 PM **Luciana Molina Medeiros, MD**
Complementary and Alternative Remedies: An Additional Source of Potential Systemic Nickel Exposure
- 3:15 PM **Break: Visit Posters and Exhibits in Salon J**
Supported by a grant from Allerderm
- 3:45 PM **Anna Balato, MD**
Contact Dermatitis from a Prosthesis
- 3:55 PM **Maria Antonieta Scherrer, MD**
Rubber Contact Allergy : Evaluation in Patients Patch Tested from 1999 to 2007 in Brazil
- 4:05 PM **Laurie Michelle Parsons, MD, Frcp(C)**
Two Cases of Unusual Intra-Oral Reactions to Cinnamic Aldehyde
- 4:15 PM **Olayemi Durosaro, B.S.**
Ten-Year Retrospective Study On Palladium Sensitivity
- 4:25 PM **Ivan Chromej, MD**
Dynamics of Contact Sensitization in Slovakia Over the Past Decade
- 4:35 PM **Douglas Powell, MD**
Reactions to Internal Metal Implants in Patients Allergic to Nickel Or Cobalt
- ACDS Business Meeting**
- 4:45 PM **Erin Warshaw, MD – ACDS President**
ACDS Business Meeting
- 5:00 PM **ACDS Reception in Salon J**
Supported by a grant from Ferndale Laboratories

* Eligible to Compete for the Fisher Resident Award for Best Oral Presentation.

POSTERS PRESENTATIONS

David R Adams, MD,PharMD

Spa Contact Dermatitis

Kassahun Desalegn Bilcha, MD**

Atopic Diseases, Intestinal Parasites and Serum Immunoglobulin E in Ethiopian Subjects

Kristine Moreno Dillague, MD**

Coconut Versus Olive Oil in Atopic Dermatitis: a Randomized Controlled Trial

Ida Duarte, MD

Rubber Contact Dermatitis

Rayna Dyck, BA

Contact Sensitivities in Vulvar Disease

Michael M Jiaravuthisan, MD

Contact Dermatitis to Polymyxin B

Luciana Molina Medeiros, MD

Retrospective Review of Patients Evaluated for Allergy to Metal Devices

Meltem Onder, MD

Allergens in Facial Contact Dermatitis

Maria Antonietta Scherrer, MD

Glyceryl Monoethioglycolate (GTG) : A Review

Anh Ngoc Tran, MD

A Case Series Of Acute Allergic Contact Dermatitis Of the Lips Secondary to Use Of Peppermint Oil in a Lip Balm

Erin M Warshaw, MD, MS

Positive Patch Test Reactions to Mixed Dialkyl Thioureas: Analysis Of Cross-Sectional Data from the NACDG, 1994-2004

Sophie M Worobec, MD

Formaldehyde Preserved Flu Vaccine Tolerability Despite Formaldehyde Sensitivity

** Recipients Of Maibach Travel Award.

Faculty Disclosures

In accordance with the Accreditation Council for Continuing Medical Education (ACCME) anyone in a position to control or influence the content of an *AMA Category 1 Credit* CME activity must disclose all relevant financial relationships with any commercial interest. Any identified conflict of interest must also be resolved prior to the presentation. To comply with this policy, the ACDS Annual Meeting Review Committee reviews all disclosure information to determine if a conflict of interests exists. Any identified conflict of interest is resolved by the approved ACCME process as adopted by the Annual Review Meeting Committee.

No Issues to Resolve

Sonya Julie Abdulla, MSc; Susun An, Master; Adam Asarch, BA; Nina Christine Botto, BA, MS4; Cristina N Brau, BS; Ivan Chromej, MD; Kristine Moreno Dillague, MD; Olayemi Durosaro, B.S.; Rayna Dyck, BA; Cindy Froehlich; Laura Michelle Furda, BA, Medical Student; Sharon Jacob, MD; Lilla M Landeck, MD; Luciana Molina Medeiros, MD; Luciana Molina Medeiros, MD; Leah Muhm, MSIV; David Rosmarin, MD; Tatyana Shaw, MD; Anh Ngoc Tran, MD; Morgan Lee Wilson, MD; Sophie M Worobec, MD.

Commercial Interests Resolved

David R Adams, MD, PharmD (Amgen and Astellas); Jason Bentow, MD, MS (Kytherabiopharma); Todd Vernon Clark, MD (Takeda Pharmaceuticals); Joseph Doumit, B. Eng (Dormer); Anite Leftick-Pedvis, (Abbot Labs, Medicis, Genetech, Centocor); William Elliot Love, DO (Lenzing AG); Susan Nedorost, MD (Lenzing Fiber Inc); Denis Sasseville, MD (Spexell Pharmaium).

Issues not yet resolved at time of printing

Ketaki Bhate, MD; Kassahun Desalegn Bilcha, MD; Ida Duarte, MD; Brandon George Howell, MD, MSc; Michael M Jiaravuthisan, MD; Yvette Miller-Monthrope, M. D.; Carla A Munoz, MD; Meltem Onder, MD; Laurie Michelle Parsons, MD, FRCP(C); Douglas Powell, MD; Maria Antonietta Scherrer, MD; Sarah Elizabeth Schram, MD; Vaneeta Marwaha Sheth, MD; Erin M Warshaw, MD, MS; Glen Crawford, MD ; Alison Ehrlich, MD.

Any real or apparent conflicts of interest will be resolved by the committee prior to the presentation.



Abstracts

Oral Presentations

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Joseph Doumit, B. Eng* Comparative Study of IQ and Finn Chambers Test Methodologies in Detecting Ten Common Standard Allergens That Cause Allergic Contact Dermatitis | 14 |
| Morgan Lee Wilson, MD* Comparative Longevity of Three Marking Pens Used in Patch Testing | 14 |
| David Rosmarin, MD* A Case Series of Eleven Patients Patch Tested While On Systemic Immunosuppressants | 15 |
| Jason Bentow, MD, Ms* A Light Emitting Mouse to Image Skin Inflammation | 15 |
| Ketaki Bhate, MD* Genital Contact Dermatitis: A Review and Retrospective Analysis | 16 |
| Laura Michelle Furda, BA, Medical Student* Anogenital Dermatitis in Patients Referred for Patch Testing: Retrospective Analysis of Cross-Sectional Data, NACDG, 1994-2004. | 17 |
| Vaneeta Marwaha Sheth, MD* Post-Operative Topical Antimicrobial Use: A Review of the Literature and Guidelines for Use | 17 |
| Lilla M Landeck, MD* Contact Allergens in Different Stages of Life: Observations of Patch Test Data 1996-2006 from the MGH | 18 |
| William Elliot Love, DO* Fabric Preference in Atopic Dermatitis and Normal Skin | 19 |
| Nina Christine Botto, BA, MS4* Contact Dermatitis Associated With Food: A Retrospective Cross-Sectional Analysis from the North American Contact Dermatitis Group 2001-2004 | 19 |
| Todd Vernon Clark, M.D.* Contact Allergy to Clocortolone Pivalate (Cloderm) Cream 0.1% in a Patient With Allergies to Multiple Topical Corticosteroid Preparations | 20 |
| Adam Asarch, Ba* Sorbitan Sesquioleate, a Common Emulsifier in Topical Corticosteroids, Is an Important Contact Allergen | 20 |
| Cristina N Brau, Bs* Prevalence of Potential Allergens in Diaper Care Products | 21 |
| Tatyana Shaw, MD* A Rare Eyelid Dermatitis Allergen: Shellac in Great Lash Mascara | 22 |
| Sarah Elizabeth Schram, MD* Occupationally-Related Contact Dermatitis in North American Healthcare Workers Referred for Patch Testing: North American Contact Dermatitis Group Data 1998-2004 | 22 |
| Sonya Julie Abdulla, Msc* Hand Dermatitis Secondary to Methylchloroisothiazolinone/ Methylisothiazolinone in Mechanics | 23 |
| Yvette Miller-Monthrope, MD* Epoxy Dermatitis in the Workplace: What Standard Patch Tests May Be Missing | 23 |

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Brandon George Howell, MD, Msc* | 24 |
| Two Concurrent Cases of Occupational Allergic Contact Dermatitis to Phenol Formaldehyde Resin Adhesives in the Wood Manufacturing Industry: The Use of Open Patch Testing to Raw Materials. | |
| Denis Sasseville, MD | 24 |
| Fisher Lecture: Phytodermatitis: An Overview | |
| Susun An, Master | 25 |
| The Usefulness of in Vitro Skin Sensitization Test Evaluating CD54, CD86 Expressions On THP-1 Cells Induced By Contact Sensitizer | |
| Sharon Jacob, MD | 26 |
| American Contact Alternatives Group ACDS Abstract | |
| Luciana Molina Medeiros, MD | 26 |
| Complementary and Alternative Remedies: An Additional Source of Potential Systemic Nickel Exposure | |
| Anna Balato, MD | 27 |
| Contact Dermatitis from a Prosthesis | |
| Maria Antonieta Scherrer, MD | 27 |
| Rubber Contact Allergy : Evaluation in Patients Patch Tested from 1999 to 2007 in Brazil | |
| Laurie Michelle Parsons, MD, Frcp(C) | 28 |
| Two Cases of Unusual Intra-Oral Reactions to Cinnamic Aldehyde | |
| Olayemi Durosaro, B.S. | 28 |
| Ten-Year Retrospective Study On Palladium Sensitivity | |
| Ivan Chromej, MD | 29 |
| Dynamics of Contact Sensitization in Slovakia Over the Past Decade | |
| Douglas Powell, MD | 29 |
| Reactions to Internal Metal Implants in Patients Allergic to Nickel Or Cobalt | |

POSTERS

| | |
|----------------------------------------------------------------------------------------|----|
| David R Adams, MD,PharMD | 30 |
| Spa Contact Dermatitis | |
| Kassahun Desalegn Bilcha, MD** | 30 |
| Atopic Diseases, Intestinal Parasites and Serum Immunoglobulin E in Ethiopian Subjects | |
| Kristine Moreno Dillague, MD** | 31 |
| Coconut Versus Olive Oil in Atopic Dermatitis: a Randomized Controlled Trial | |
| Ida Duarte, MD | 31 |
| Rubber Contact Dermatitis | |
| Rayna Dyck, BA | 32 |
| Contact Sensitivities in Vulvar Disease | |
| Michael M Jiaravuthisan, MD | 33 |
| Contact Dermatitis to Polymyxin B | |
| Luciana Molina Medeiros, MD | 33 |
| Retrospective Review of Patients Evaluated for Allergy to Metal Devices | |
| Meltem Onder, MD | 34 |
| Allergens in Facial Contact Dermatitis | |
| Maria Antonieta Scherrer, MD | 34 |
| Glyceryl Monoethioglycolate (GTG) : A Review | |

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Anh Ngoc Tran, MD A Case Series Of Acute Allergic Contact Dermatitis Of the Lips Secondary to Use Of Peppermint Oil in a Lip Balm | 35 |
| Erin M Warshaw, MD, MS Positive Patch Test Reactions to Mixed Dialkyl Thioureas: Analysis Of Cross-Sectional Data from the NACDG, 1994-2004 | 35 |
| Sophie M Worobec, MD Formaldehyde Preserved Flu Vaccine Tolerability Despite Formaldehyde Sensitivity | 36 |

Oral Presentations

COMPARATIVE STUDY OF IQ AND FINN CHAMBERS TEST METHODOLOGIES IN DETECTING TEN COMMON STANDARD ALLERGENS THAT CAUSE ALLERGIC CONTACT DERMATITIS

Joseph Doumit, Melanie Pratt, Division of Dermatology, University of Ottawa, Ottawa, Canada

Background

Patch testing is routinely used in contact dermatitis clinics since it is the gold standard for the evaluation of potential allergic contact dermatitis.

Objectives

The present study was undertaken to evaluate possible differences in reactivity between the Finn Chamber and IQ patch testing methodologies.

Methods

Between the period of December 16Th, 2005 and December 15Th, 2006, 214 patients were patch tested simultaneously with the Finn Chamber and IQ patch tests. Ten standard allergens set by the North American Contact Dermatitis Group (NACDG) were utilized for both techniques. They include Formaldehyde 1.0% aq, Ethylenediamine dihydrochloride 1.0% pet, Bisphenol A epoxy resin 1.0% pet, Quaternium 15 - 2.0% pet, 4-tert-butylphenol formaldehyde resin 1.0% pet, Mercapto mix 1.0% pet, Black rubber mix pet 0.6%, Potassium dichromate 0.25% pet, Myroxylon Pereirae 25.0% pet and Nickel sulfate 2.5% pet.

Results

From the 405 positive reactions obtained, 206 (50.9%) were positive with the Finn Chambers, 199 (49.1%) with IQ tests and 358 (88.4%) with both methods. The Finn Chamber methodology was more efficient at detecting Formaldehyde, Quaternium 15 and Nickel sulfate; missing 12.9%, 2.6% and 2.94% respectively of all positive reactions. In contrast, the IQ methodology was better in detecting Potassium dichromate, missing 14.3% of positive reactions.

Conclusions

The Finn Chamber performed better at detecting Formaldehyde, Quaternium 15 and Nickel sulfate whereas the IQ was better in the detection of Potassium dichromate.

COMPARATIVE LONGEVITY OF THREE MARKING PENS USED IN PATCH TESTING

Morgan L. Wilson, Dirk M. Elston, and Christen M. Mowad

Geisinger Medical Center, Department of Dermatology, Danville, PA, USA

This study was performed on human volunteers with the approval of the Geisinger Institutional Review Board.

Patch testing is a multi-step process, which has been conducted with a number of methodological variations. At the time of patch removal, a grid is typically drawn on the patient's back, allowing correlation with a map of the allergens applied. Such grids have been drawn with a variety of marking pens, but there is little published data comparing these pens for longevity or readability.

We drew grids on the backs of six volunteers using each of three markers of differing brand and price. Volunteers were instructed to take forward-facing showers and to avoid scrubbing the back. The grids were assessed for readability at 48, 72, and 96 hours. Although compliance with showering recommendations was poor, grids drawn with all three pens remained easily readable at 48, 72, and 96 hours.

A CASE SERIES OF ELEVEN PATIENTS PATCH TESTED WHILE ON SYSTEMIC IMMUNOSUPPRESSANTS

David M Rosmarin MD, Adam Asarch BA, and Pamela L Scheinman MD

Tufts-New England Medical Center, Department of Dermatology, Boston, MA

Background: Ideally patch testing is performed when patients are not taking systemic immunosuppressants. However, occasionally the need arises to test patients while they are on immunomodulators. Little is known about how these systemic agents affect the results of patch testing.

Objective: We present eleven patients who underwent patch testing while taking or within 48 hours of cessation of various systemic immunosuppressants.

Methods: Retrospective chart reviews were performed on eleven patients who underwent patch testing under the effects of immunosuppressants.

Results: Patients had been taking prednisone (n=6), cyclosporine (n=2), combination cyclosporine and prednisone (n=1), mycophenolate mofetil (n=1), and infliximab (n=1) up to 48 hours prior and/or during patch testing. Seven patients (three on prednisone, two on cyclosporine, one on combination cyclosporine and prednisone, and one on infliximab) showed at least one strong (2+) or extreme (3+) patch reaction. Three patients (two on prednisone and one on mycophenolate) had at least one weak (1+) reaction. One patient on prednisone showed only questionable reactions. The patient on mycophenolate was eventually re-patch tested off immunosuppressants and showed strong (2+) clinically relevant patch reactions.

Conclusion: While it is optimal for patch testing to be performed when patients are off immunosuppressants, immunosuppressive therapies should not be an absolute contraindication to patch testing.

A LIGHT EMITTING MOUSE TO IMAGE SKIN INFLAMMATION

Jason J. Bentow MD, MS¹, Michael S. Kolodney, MD, PhD², Samuel W. French, MD¹

Department of Pathology¹, Division of Dermatology², Harbor-UCLA Medical Center, Torrance, CA 90509.

The mouse ear swell test (MEST) is a convenient method to quantitate the inflammatory response to contact irritants and sensitizing agents. However, this assay measures edema only and therefore may not reflect the cellular component of skin inflammation. To develop a quantitative and non-invasive assay of inflammatory cell infiltration in contact dermatitis, we have created a transgenic

bioluminescent mouse that emits light proportional to cutaneous infiltration of inflammatory cells. We have characterized this model by correlating luminescence with edema and histologic analysis of affected skin. The mice were created by crossing a strain that expresses Cre recombinase driven by a promoter active only in myeloid lineage cells with a reporter strain containing an inactivated form of the luciferase gene. In progeny mice, Cre-mediated recombination repairs the luciferase gene causing light emission from cells of the myeloid cell lineage (monocytes, macrophages, and granulocytes). Myeloid cells were imaged in living mice with a deeply cooled CCD camera. Squaric acid was used to induce allergic contact dermatitis on one ear. Light emission from the inflamed ear was quantitated and compared to the contralateral ear. Light emission correlated closely with infiltration of neutrophils in the dermis. Luminescence increased 5.26 fold in the inflamed ear while edema only increased 2.17 fold. Edema appeared to precede leukocyte infiltration. Our model may serve a useful screening assay for topical anti-inflammatory molecules. Moreover, our approach allows us to image the infiltration of specific lineages of inflammatory cells in living animals in real time and thus has the potential to provide insight into the role of leukocyte subsets in cutaneous inflammation. Animal studies were approved by the Institutional Animal Care and Use Committee at our institution.

GENITAL CONTACT DERMATITIS: A REVIEW AND RETROSPECTIVE ANALYSIS

Ketaki Bhate², Peter C. Schalock¹ and Ernesto Gonzalez¹

¹ Department of Dermatology, Massachusetts General Hospital (MGH), Harvard Medical School, Boston, MA

² Imperial College School of Medicine, London

Objective

Many topical products are used in the genital region. Despite initial relief, some may worsen the underlying problem by causing allergic dermatitis. Our goal was to identify agents with preponderance for causing an allergic/irritant dermatitis of genital region.

Methods

Patients seen in the Contact Dermatitis clinic at MGH from 1990-2006 were evaluated (n=1238). Standardized patch testing to the Trolab/Hermal standard series with readings at 48 and 72 hours was performed. Those with genital dermatitis were identified and data was collected by IRB-approved retrospective chart analysis.

Results

Only 2.4% of those tested in the 17 year period had genital dermatitis. Of those individuals (n=37, aged 24-77 years, 49% female), 43% had allergic contact dermatitis by positive patch test. The top 5 allergens were balsam Peru 10.8 %, fragrance mix 8.1%, balsam Tolu 8.1% phenylmercuric acetate 8.1% and neomycin (5.4%). All reactions were clinically significant. Other relevant reactions included paratertiarybutyl phenol formaldehyde resin, hydrocortisone, thiurams and ethylenediamine. Females had higher positive results (50%) compared to males (37%). 57% of patients had no positive reaction. Non-reacting patient diagnoses were: other dermatoses (25%), eczema/atopic dermatitis (19%), psoriasis (8%) and irritant dermatitis (5%).

Conclusion

Genital dermatitis was relatively rare, with only 1% of the total population tested having ACD. The top 5 allergens are frequently present in toiletries and cosmetics used on genital skin. Three of the

top allergens are fragrance-related underscoring the importance of using fragrance-free products on mucosal skin. Other less common allergens should also be considered.

ANOGENITAL DERMATITIS IN PATIENTS REFERRED FOR PATCH TESTING: RETROSPECTIVE ANALYSIS OF CROSS-SECTIONAL DATA, NACDG, 1994-2004.

EM Warshaw, LM Furda, HI Maibach, RL Rietschel, JF Fowler, Jr., DV Belsito, KA Zug, VA DeLeo, JG Marks, Jr., CGT Mathias, MD Pratt, D Sasseville, FJ Storrs, JS Taylor; Universities: Minnesota, California, Arizona, Louisville, Missouri, Dartmouth, Columbia, Pennsylvania State, Cincinnati, Ottawa, McGill, Oregon, Cleveland Clinic,

Objectives: 1) Characterize patients with anogenital involvement (AGI) referred for patch testing by the North American Contact Dermatitis Group (NACDG); 2) identify common allergens; 3) explore sex associations.

Methods: Retrospective, cross-sectional analysis of NACDG database, 1994-2004.

Results: Sex proportions and mean age were not significantly different in patients with only AGI (n=347) as compared to those without (n=21,450). In patients with only AGI, a final diagnosis of "other dermatoses" was significantly more common in females than males (RR 1.99, 95% CI 1.37, 2.91). Allergic contact dermatitis (ACD) was not associated with sex. Allergens which were significantly more common in patients with AGI included cinnamal, dibucaine, benzocaine, hydrocortisone-17-butyrate and budesonide. 73 patients had "anogenital ACD" defined as: only anogenital involvement, ACD as the only diagnosis, and at least one positive reaction of current clinical relevance. For that subgroup, the most common allergen sources included cosmetics, medications, and corticosteroids.

Conclusion: In NACDG patients with only AGI, males and females were equally likely to have ACD, but females were more likely to have other dermatoses. Common allergens and sources consisted of those likely to have contact with the anogenital area.

POST-OPERATIVE TOPICAL ANTIMICROBIAL USE: A REVIEW OF THE LITERATURE AND GUIDELINES FOR USE

Vaneeta M. Sheth and Sarah B. Weitzul

Department of Dermatology
University of Texas Southwestern
Dallas, TX

Background: Allergic contact dermatitis associated with topical antimicrobial agents is an increasing problem in the post-operative wound care period.

Objective: To review topical antimicrobial agents most commonly used in the United States and Europe post-operatively and to examine the incidence of allergic contact dermatitis to each agent. To provide guidelines for the use of topical antimicrobials on closed and open wounds in the post-operative period.

Methods: A review of the literature involving allergic contact dermatitis to topical antimicrobials overall and in the ambulatory dermatologic post-operative setting was undertaken.

Results: Neomycin was the most common cause of allergic contact dermatitis both in the general patch-tested population (11%) as well as in the post-surgical population. Bacitracin was also a common culprit, though at lower rates (8%). There is a risk of co-reactivity among these two agents. Polymyxin B and mupirocin were not significant allergens. The rate of post-operative infectious complications in dermatologic surgery (1-2%) was similar to the rate of allergic contact dermatitis to topical antimicrobials (1.6-2.3%).

Conclusion: For closed wounds, the use of topical neomycin post-operatively should be avoided. White petrolatum is an efficacious and cost-effective alternative for closed wounds. For open wounds, the use of non-neomycin-containing topical antimicrobials should be recommended.

Acknowledgements: Dr. Ponciano Cruz and Dr. James Taylor

CONTACT ALLERGENS IN DIFFERENT STAGES OF LIFE: OBSERVATIONS OF PATCH TEST DATA 1996-2006 FROM THE MGH

Lilla Landeck¹, Peter C. Schalock¹, Anneli Schalock², and Ernesto Gonzalez¹

¹ From the Department of Dermatology, Massachusetts General Hospital, Harvard Medical School, Boston, MA

² Tuck School of Business at Dartmouth, Hanover, NH

Objective

Allergic contact dermatitis (ACD) occurs in all stages of life, from childhood to the elderly. The goal of this investigation was to evaluate the sensitization profile of patients in various decades of life undergoing patch testing at the Massachusetts General Hospital Contact Dermatitis Clinic.

Methods

Patients (n=713, aged 9-89 years, 70.3% female) underwent standardized patch testing to the Trolab/Hermal standard series from January 1, 1996 to December 31, 2006. Data were collected by IRB approved retrospective chart analysis.

Results

Overall, 71.6% had at least one positive reaction. Fragrance Mix and Nickel sulfate were the most common allergens throughout all adult age groups. Additionally, thimerosal in patients ≤ 19 years, Balsam of Peru in patients ≥ 20 and Formaldehyde in patients ≥ 60 years were frequently seen sensitizers.

The highest rate of sensitization and number of positive allergens occurred in patients ≥ 60 years. With increasing age, there was a continuous increase in prevalence of contact sensitization. The number of positives per patient increased from 1.75 in those ≤ 19 years to 2.57 in individuals ≥ 60 years.

Conclusions

While some feel that advancing age is correlated with decreased immunological and inflammatory response, our findings do not support this idea. Children react to thimerosal at a higher rate than

other age groups. Adults react most often to fragrance components. In addition, those over 60 years were sensitized more frequently to formaldehyde. Contact sensitization may result from a combination of repeated environmental exposures and age related susceptibility factors that seem to be additive over a lifetime.

FABRIC PREFERENCE IN ATOPIC DERMATITIS AND NORMAL SKIN

W. Elliot Love^{*†}, Susan T. Nedorost^{*†}

^{*}Department of Dermatology, University Hospital Case Medical Center, Cleveland Ohio

[†]Case Western Reserve University School of Medicine, Cleveland Ohio

BACKGROUND: Atopic dermatitis (AD) patients have sensitive skin with impaired barrier function. Smooth and absorbent fabrics such as cotton are recommended for AD patients. Lyocell is a cellulosic fiber that offers unique characteristics which may be suitable for patients with AD. **OBJECTIVE:** Preference for 100% lyocell clothing and bedding was compared to 100% cotton fabrics in subjects with atopic dermatitis and normal skin. **METHODS:** Following approval from the institutional review board, thirty patients were enrolled and randomly selected to wear cotton or lyocell (Tencel[®], Lenzing AG) shirts, pajamas, and bedding for one week. Following a one week washout period patients wore the other fabric for one week. At the end of each week patients completed a preference questionnaire and AD patients also rated daily itch on a visual analog scale. A random subset of AD and normal patients underwent transepidermal water loss (TEWL) measurement. **RESULTS:** Overall, there was a significant preference for lyocell for softness, temperature control, moisture control, and fabric wrinkling versus cotton. AD patients did not have stronger fabric preferences than normal subjects. Although not significant, lower average itch and decreased TEWL was seen in patients while wearing lyocell. **CONCLUSION:** Lyocell is superior to cotton in many comfort and performance characteristics. Lyocell is currently available as a beneficial fabric option to improve comfort for patients.

CONTACT DERMATITIS ASSOCIATED WITH FOOD: A RETROSPECTIVE CROSS-SECTIONAL ANALYSIS FROM THE NORTH AMERICAN CONTACT DERMATITIS GROUP 2001-2004

EM Warshaw, NC Botto, HI Maibach, RL Rietschel, JF Fowler, Jr., DV Belsito, KA Zug, VA DeLeo, JG Marks, Jr., CGT Mathias, MD Pratt, D Sasseville, FJ Storrs, JS Taylor; Universities: Minnesota, California, Arizona, Louisville, Missouri, Dartmouth, Columbia, Pennsylvania State, Cincinnati, Ottawa, McGill, Oregon, Cleveland Clinic

Background- Little is known about allergic and irritant contact dermatitis to food.

Objectives- To characterize allergens and relevant irritants associated with food in patients referred for patch testing by the North American Contact Dermatitis Group (NACDG).

Methods- Retrospective analysis of cross-sectional data of patients patch tested by the NACDG from 2001-2004.

Results- 109 of 10,061 (1.1%) patch test patients had a total of 122 reactions associated with food. 66% were female and 36% were atopic. The hand was the most common site of dermatitis (36.7%),

followed by scattered generalized dermatitis (20.2%), arm (17.4%), and face (9.2%). 78 reactions were to NACDG standard series allergens; nickel was the most common allergen (48.7%), followed by *Myroxylon pereirae* (20.6%), and propylene glycol (6.4%). 24 relevant food irritants were also identified. Overall, 21% (25/122) of reactions were occupationally-related; the majority of these were relevant irritant sources (17/25). Cooks were the most commonly associated occupational group (40%), followed by bakers (12%), restaurant managers (12%), and grocery store stockers/baggers (12%).

Conclusions- Nickel was the most common allergen on the NACDG standard series associated with food. Foods commonly acted as irritants in occupationally-related disease.

CONTACT ALLERGY TO CLOCORTOLONE PIVALATE (CLODERM) CREAM 0.1% IN A PATIENT WITH ALLERGIES TO MULTIPLE TOPICAL CORTICOSTEROID PREPARATIONS

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Clocortolone pivalate (Cloderm®) 0.1% cream (Coria Laboratories, Fort Worth, TX) is a topical corticosteroid of medium potency (potency class 4, structural class C) used to treat a variety of inflammatory dermatoses. We report a case of contact allergy to this agent in a patient with multiple allergies to other topical corticosteroids from differing classes. The patient, a 75 year old female, was referred to our Dermatology Patch Test Clinic for evaluation. The patient had a 20 year history of an intermittent, pruritic eruption of her arms and legs. She was patch tested to the standard, cosmetic, and corticosteroid series of allergens and also to her own topical preparations she was using for treatment. At the day 5 reading of her test, she had a 1+ reaction to the Cloderm® cream. In addition, she had 1+ reactions to clobetasol, triamcinolone, budesonide, hydrocortisone 17-butyrate, betamethasone 17-valerate, Vytone® cream 1%, Psorcon® cream 0.05%, Aclovate® ointment 0.05%, Temovate® ointment 0.05%, Desowen® cream 0.05%, Dermatop® cream 0.1%, and Elocon® cream 0.1%. The patient also had a +/- reaction to dexamethasone 21-phosphate. Therefore, we present a case of a patient with contact allergies to multiple topical corticosteroid preparations including clocortolone pivalate, which to our knowledge, has been reported very infrequently in the past.

SORBITAN SESQUIOLEATE, A COMMON EMULSIFIER IN TOPICAL CORTICOSTEROIDS, IS AN IMPORTANT CONTACT ALLERGEN

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Objectives: To present 13 out of 112 patch tested patients who reacted to sorbitan sesquioleate and/or sorbitan monooleate.

Materials and Methods: A retrospective data analysis was conducted on 112 dermatitis patients patch tested in an IRB approved study from December 2006 - May 2007. All patients were tested with a modified North American Contact Dermatitis Group (NACDG) standard series,

preservative/cosmetic series and fragrance series. Other series were applied based on history and physical exam. Readings were performed at 48 and 72 hours and graded according to the NACDG grading system.

Results: Out of 112 patients, 10 (8.9%) reacted to sorbitan sesquioleate, 1 (0.9%) reacted to sorbitan monooleate, and 2 (1.8%) reacted to both. Nine of the 12 sorbitan sesquioleate- positive patients were using topical corticosteroids emulsified with sorbitol or sorbitan derivatives. 2 out of these 13 sorbitan- allergic patients were also allergic to one or more corticosteroid screening chemicals tested.

Conclusions : Sorbitan sesquioleate is a common emulsifier used in many popular high to super potent corticosteroids. It has not previously been reported to be an important contact allergen. The high prevalence of contact reactions to sorbitol derivatives in this small group of patients suggests that these chemicals may be sensitizing when applied to dermatitic skin. Larger studies in dermatitis patients should be conducted to confirm these findings.

PREVALENCE OF POTENTIAL ALLERGENS IN DIAPER CARE PRODUCTS

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Allergic contact dermatitis is becoming increasingly prevalent in the pediatric population. Many of the identified potential allergens in numerous pediatric studies such as fragrance, balsam of Peru, essential oils, lanolin, paraben, formaldehyde releasers, vitamin E, and propylene glycol, can be found in various diaper rash products. Nevertheless, these preparations are marketed as especially suitable for infant skin. There is a concern that the epidermal barrier impairment resulting from persistent diaper rash can facilitate allergen skin penetration and place infants at risk for sensitization.

We reviewed the presence of potential allergens in 44 barrier preparations, noting active and inactive ingredients as well as advertising words such as "hypoallergenic" on the products' labels. We examined six categories of potential allergens: propylene glycol, special oils/botanicals, preservatives (paraben, kathon CG, formaldehyde releasers), lanolin, vitamin E, and fragrance (including any of the components of fragrance mix I, II, or balsam of Peru). We determined their prevalence to be 11%, 30%, 32%, 34%, 39%, and 43%, respectively. Ninety-three percent of the products and 100% of those marketed as "hypoallergenic," proved to contain at least one potential allergen. A review of the ingredients in all products that might be potentially sensitizing is imperative before selecting barrier preparations to be placed on occluded, inflamed perineal skin.

A RARE EYELID DERMATITIS ALLERGEN: SHELLAC IN GREAT LASH MASCARA

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Eyelid dermatitis is a common condition with a variety of etiologies, which include allergic contact dermatitis. Few allergens have been implicated, including fragrances and preservatives, however, only few reports in the literature describe allergic contact reactions to mascara or its specific ingredients.

We report three cases of women with eyelid dermatitis, who were patch tested to the standard tray of 65 allergens and their own products. All three were found to be allergic to their own Great Lash Maybelline mascara. To investigate further, we performed patch testing to the individual ingredients of that mascara, provided by the manufacturer, and found that 2/3 of the patients had an allergic reaction to Shellac. Shellac is a natural resin produced by the *Laccifer lacca* insect, and mostly harvested in India for use in the varnishes, food coatings, and in the cosmetic industry. For instance, in Great Lash mascara it is used as a curling agent.

In 2002, six eyelid dermatitis cases caused by an allergic reaction to Gemey Great Lash mascara (European version of Maybelline Great Lash) were reported in France. Five of those patients were found to have positive patch tests to Shellac. Maybelline Great Lash is a popular brand of mascara in the United States; hence we may be seeing an emerging allergen, which should be considered while investigating causes of eyelid dermatitis.

OCCUPATIONALLY-RELATED CONTACT DERMATITIS IN NORTH AMERICAN HEALTHCARE WORKERS REFERRED FOR PATCH TESTING: NORTH AMERICAN CONTACT DERMATITIS GROUP DATA 1998-2004

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Objectives: (1) Estimate the prevalence of occupationally-relevant ACD among healthcare workers (HCWs) patch tested from 1998-2004 by the North American Contact Dermatitis Group (NACDG), (2) characterize allergens in HCWs (3) compare results to non-healthcare workers (non-HCWs).

Methods: Occupationally-relevant allergic patch test results were analyzed in HCWs, HCW subgroups, and non-HCWs.

Results: 1255/15,896 (7.9%) patients were HCWs. Female gender (HCWs: 86.2%; non-HCWs: 63.6%) and hand involvement (HCWs: 54.7%; non-HCWs: 27.8%) were more common in HCWs ($p < 0.05$). 18.2% of HCWs and 6.6% of non-HCWs had occupationally-related allergens of current clinical relevance. Thiuram mix (HCWs: 8.87%; non-HCWs: 0.90%) and carba mix (HCWs: 5.43%; non-HCWs: 0.87%) were the most common antigens in HCWs and were significantly more common than in non-HCWs ($p < 0.05$).

Conclusions: The most common occupationally-related allergens in HCWs were thiuram mix and carba mix, followed by glutaral, cocamide diethanolamide, and chloroxylenol. Gloves, sterilizing solutions, and soaps were common sources of responsible allergens.

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HAND DERMATITIS SECONDARY TO METHYLCHLOROISOTHIAZOLINONE/ METHYLISOTHIAZOLINONE IN MECHANICS

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Background: Allergic contact dermatitis (ACD) is a common occupational disease and significant cause of work absenteeism. Dermatitis can be so severe that it will prompt vocational change. Methylchloroisothiazolinone/ methylisothiazolinone (MCI/MI, Kathon CG) is a common preservative found in waterless hand cleansers, many of which are used by mechanics. We present 8 cases of ACD secondary to MCI/MI evaluated at the Ottawa Patch Test Clinic in the past two years.

Objectives:

1. Examine the clinical features of ACD secondary to MCI/MI
2. Determine common sources of MCI/MI, particularly waterless hand cleansers used by mechanics
3. Discuss management options for mechanics with MCI/MI ACD
4. Determine the impact of contact allergen identification on the patient's quality of life, including vocational change

Methods: Patients underwent patch testing to the North American Contact Dermatitis Group Standard Screening Series, the chemotechnique oil & coolant series plus other supplementary allergens in our mechanics series. Readings were done at 48 and 96 or 120 hours. Follow-up interviews were conducted with patients in order to assess the impact of allergen identification on disease management and their quality of life.

Results: All patients had significant contact allergy to MCI/MI (=2+). The patient response to discontinuing waterless hand cleansers containing MCI/MI will be discussed.

Conclusions: MCI/MI is a common allergen found in waterless hand cleansers used by mechanics. MCI/MI allergen identification can direct disease management, allowing patients to improve their quality of life and avoid vocational change

EPOXY DERMATITIS IN THE WORKPLACE: WHAT STANDARD PATCH TESTS MAY BE MISSING

Yvette Miller-Monthrope and Sandy Skotnicki-Grant. James R. Nethercott Occupational Health Clinic, St. Michaels Hospital, University of Toronto, Canada

Allergic contact dermatitis to Epoxy Resin Systems (ERS) is well-described. The majority of ERS are based on the resin DGEBA-R. It therefore follows that DGEBA-R is present on standard patch testing series. Patients however may become sensitized to any component of the ERS including epoxy monomers such as DGEBA-R, the reactive diluent, the hardner or any other additives present. Epoxy dermatitis to non-DGEBA-R resins such as DGEBAF-R and to the other ERS components are now being reported more frequently, and their diagnosis is dependent on testing to raw materials.

We present two cases of allergic contact dermatitis to ERS that initially produced negative results on standard epoxy series patch testing resulting in denied Workers Compensation claims. These 2 cases were later found to be positive after testing with diluted and controlled raw materials.

TWO CONCURRENT CASES OF OCCUPATIONAL ALLERGIC CONTACT DERMATITIS TO PHENOL FORMALDEHYDE RESIN ADHESIVES IN THE WOOD MANUFACTURING INDUSTRY: THE USE OF OPEN PATCH TESTING TO RAW MATERIALS.

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Phenol formaldehyde (phenolic) resins are poly-condensation products of phenols and aldehydes. Phenol-formaldehyde resins have many industrial applications including moisture resistant adhesives and glues used in the construction industry. We present two cases of contact dermatitis to phenolic resin adhesives in the manufacture of exterior handcrafted wooden doors and veneered windows. The door-maker developed chronic hand dermatitis. The window-maker, working with heated phenolic resin adhesives, developed a more extensive eruption on the arms and face. As with epoxy resin systems, patch testing with the actual resin to which the worker is exposed is important. No single substance or standard set of allergens reliably detects allergy to the wide variety of phenolic resins. On account of daily direct skin exposure to these resins, patch testing with the raw materials was performed using an open un-occluded method without dilution. Interestingly, common allergens were discovered for these divergent clinical presentations. Furthermore, it was determined that the door-maker was only allergic to exterior door phenol resin adhesives. He could continue to work with the materials used for interior doors. Open testing to raw materials enabled this conclusion, and allowed him to stay at his workplace. If raw material testing had not been done, this would not have been discovered

2008 Fisher Lecture

PHYTODERMATITIS: AN OVERVIEW

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Five basic clinical patterns of cutaneous reactions to contact with plants are recognized: 1) allergic phyto dermatitis, 2) phytophotodermatitis, 3) irritant contact dermatitis, 4) pharmacologic injury, and 5) mechanical injury. Most dermatologists are familiar with the clinical presentation of each pattern and know the names of the most common causative plants. Few, however, can recognize the plants themselves, describe their botanical characteristics, or identify their offending structures and chemicals.

Exotic plants are now more and more present in our gardens and personal environment. Allergenic and irritant chemicals of botanical source are present in woods, adhesives and perfumes. In recent years, exposure to plant extracts has considerably increased due to the renewed interest in aromatherapy, massage therapy and so-called "natural" remedies and cosmetics. Atypical patterns of plant contact dermatitis have ensued, with which the practicing dermatologist must become familiar.

This review will first explain the binomial system of plant taxonomy devised by Linné. It will then focus on allergic phytocontact dermatitis, describing the botanical characteristics of the responsible plants and showing the chemical structure of the allergens. Four major families of plants will be discussed: Anacardiaceae, Asteraceae (Compositae), Liliaceae and Primulaceae. In addition, a quick overview of indigenous and exotic trees, as well as lichens, will conclude this lecture.

THE USEFULNESS OF IN VITRO SKIN SENSITIZATION TEST EVALUATING CD54, CD86 EXPRESSIONS ON THP-1 CELLS INDUCED BY CONTACT SENSITIZER

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Peripheral blood mononuclear cell-derived dendritic cells or hematopoietic progenitor cells have been tried for the detection of allergenic potencies of certain chemicals. Recently, an in vitro method using the human leukemia cell line, more specifically THP-1, U937, and KG-1, which exhibit characteristics of dendritic cells, have been studied for screening contact sensitizers. To investigate the usefulness of in vitro assay system for contact sensitization by chemicals, we evaluated the expressions of co-stimulatory molecules, CD54 and CD86, on THP-1 cells and analyzed the accuracy and correlation based on the data of well-established sensitization test methods (guinea pig maximization test and local lymph node assay).

We investigated the expression of CD54 and CD86 on the THP-1 cells using flow cytometry after 24h exposure to known sensitizers 1-chloro-2,4-dinitrobenzene (DNCB), 2,4-dinitrofluorobenzene (DNFB), benzocaine, 5-chloro-2-methyl-4-isothiazolin-3-one (MCI), hexylcinnamic aldehyde (HCA), eugenol (Eu), nickel sulfate hexahydrate (Ni), cobalt sulfate (Co), 2-mercaptobenzothiazole (2-MBT) and ammonium tetrachloroplatinate (Pt). Known non-sensitizers sodium lauryl sulfate (SLS), benzalkonium chloride (BKC), lactic acid, salicylic acid, isopropyl alcohol and dimethyl sulfoxide (DMSO) were also tested. Test concentrations were 0.1X, 0.5X, 1X of IC₅₀, and relative fluorescence intensity (RFI) was used as an expression indicator.

The accuracy of this test for detecting sensitizers was over 70% (CD54 RFI >120 or CD86 RFI >200), and most known sensitizers were shown to be in this range. There were, however, a few false-positive cases (SLS, lactic acid, salicylic acid). We delineated a criterion for grading the sensitizing potential and investigated the correlation with the data from the guinea pig maximization test and local lymph node assay. There were good correlations.

This suggests that in vitro skin sensitization test using THP-1 cell could be useful for screening contact sensitizers and estimating chemical allergenic potencies.

AMERICAN CONTACT ALTERNATIVES GROUP ACDS ABSTRACT

Zirwas MJ, Warshaw E, Nedorost ST, Katta R, Jacob SE and Scheman A.

Background: The cornerstone of contact dermatitis evaluation and treatment is the identification and avoidance of the allergens instigating the dermatitis. While other research groups have documented epidemiologic trends, more resources for allergen avoidance are needed.

Objective: The formation of the American Contact Alternatives Group whose primary function is to collect information on sources and avoidance of common allergens.

Methods/Results/Conclusions: . The collaborative work of this group culminated in the inaugural publication of Contact Allergy Alternatives for the 65 allergens present on the 2007 North American Contact Dermatitis Group (NACDG) Standard Tray. (Disease a Month January, 2008). This presentation highlights sections from this publication and discusses practical and previously unreported contact allergen alternatives.

COMPLEMENTARY AND ALTERNATIVE REMEDIES: AN ADDITIONAL SOURCE OF POTENTIAL SYSTEMIC NICKEL EXPOSURE

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Background: Systemic contact dermatitis from nickel has been reported from a number of sources including medical devices and following experimental oral exposure.

Objective: To identify other potential sources of systemic nickel exposure.

Methods: Review of internet and published medical sources for complementary and alternative remedies which contain nickel.

Results: We identified the presence of nickel ranging from 0.125 to 9 mg in four homeopathic preparations which are advertised to treat common skin diseases. In a Nigerian report, herbal remedies were found to contain large, almost toxic amounts of nickel ranging from 2.525 to 78 mg/g. Nickel was also found in a number of other homeopathic remedies, herbal products and multivitamin mineral complexes.

Conclusion: Complementary and alternative remedies are an additional source of systemic nickel exposure and at highest doses the potential risk for systemic contact dermatitis in nickel allergic patients should be considered.

CONTACT DERMATITIS FROM A PROSTHESIS

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Patients wearing a prosthesis face a wide variety of medical problems. Skin complications have long been recognized, but its prevalence is still unknown. The most frequently reported disorders are allergic contact dermatitis (ACD), acroangioid dermatitis, epidermoid cysts, epidermal hyperplasia, follicular hyperkeratosis, verrucous hyperplasia, bullous diseases, hyperhidrosis, infections, malignancies and ulcerations. Contact Dermatitis represents one third of the dermatoses in amputees wearing prostheses. All patients where there is suspicion of ACD should be patch tested with standard allergen series as well as materials from the patient's own prosthesis, topical medicaments, moisturizers and cosmetics.

We report a patient with an ACD to Mixed Dialkyl Thiourea present in the rubber parts of his below the knee prosthesis. Thiourea derivatives are used as accelerators in the manufacture of chloroprene rubber and as fixatives in photography and photocopy paper. Thiourea allergy is relatively uncommon; different studies have shown prevalence of 0.7% up to 2.4% in patch tested patients. They are often the allergic sources in ACD involving high-grade rubber products made of neoprene such as diving suits, protective goggles, knee braces and continuous positive airway pressure masks. They are also present in the rubber material of prostheses, as in the case of our patient.

RUBBER CONTACT ALLERGY : EVALUATION IN PATIENTS PATCH TESTED FROM 1999 TO 2007 IN BRAZIL

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Background: The incidence of rubber contact allergy in the general population is not easily evaluated. It varies among countries due to genetic variations in a given population, different exposure patterns or other demographic factors.

Objective: To study the incidence of rubber contact allergy in patients in a Contact Dermatitis Clinic.

Methods : A retrospective study in 1523 patients patch tested to a standard series. Complementary allergens were tested when necessary, according to clinic suspicion.

Results: 222 patients () showed sensitivity to rubber allergens.

Its prevalence was : carba mix 123 (55.40%), thiuran mix 110 (49.54%), PPD mix 55 (24.77%), mercapto mix 47 (21.17%).

136 (61.26%) presented more than one positive reaction to these allergens . The most frequent association was with accelerators (72 cases 32.43 %). 125 (56.56%) patients were also sensitized to potassium dichromate, most of them from cement.

Rubber allergy was related to occupation in 175 cases (78.83%) :112 construction workers, 19 cleaners, 10 health care workers, 34 others. Among them hand dermatitis was observed in 144 workers (82.29%), probably due to use of rubber gloves.

26 patients (11.71%) showed shoe dermatitis. Rubber allergy related to other sources was detected in 23 cases (10.36%).

Conclusion : The incidence of sensitization to rubber in this study was especially related to occupation, mainly among construction workers.

TWO CASES OF UNUSUAL INTRA-ORAL REACTIONS TO CINNAMIC ALDEHYDE

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Positive patch tests to cinnamic aldehyde are not an unusual finding in a contact dermatitis clinic, but intra-oral reactions are not generally reported. Given the frequency of intra-oral exposure to cinnamic aldehyde in oral care products and foods, one would expect mucosal involvement in these patients. The lack of reactions is probably due mainly to the inherent protection of the intra-oral mucosa and the diluting effect of saliva. However intra-oral reactions can occur under special circumstances. Two cases of such reactions will be discussed along with the clinical situations which made these presentations possible as well as a brief review of the literature on mucosal presentations of cinnamic aldehyde allergy

TEN-YEAR RETROSPECTIVE STUDY ON PALLADIUM SENSITIVITY

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Palladium (Pd) has become an important contact allergen due to its increased use in jewelry and dentistry. The frequency of Pd sensitivity reported in European literature ranges from 8-10 %. No incidence is known in the US. Our goal was to determine the frequency and relevance of Pd allergy in a US patch test population. Approval was granted by the Mayo Institutional Review Board. A ten year retrospective review of patients sensitive to Pd was performed. A total of 910 patients patch tested were identified. A positive patch-test result to Pd was noted in 109 patients (12.0%). 94.3% of the patients were sensitive to more than one metal with 5.7% of patients being monosensitized to palladium as the only allergen. Nickel allergy was found in 63.2% of patients sensitized to palladium. Of the patients sensitized to palladium, 14.9% presented with lichen planus, 14.9% had burning mouth syndrome, 27.6% had contact stomatitis and the remaining 29.9% had hand and body dermatitis. The frequency of palladium sensitivity in our patient population was 12.0% which was substantially higher compared to European reports. 4 out of 5 patients monosensitized to Pd had oral disease. The co-sensitization of palladium with Ni and cobalt continues to make understanding the role of palladium sensitivity difficult. Our study provides a means to clarify the importance of sensitivity to this increasingly popular metal.

DYNAMICS OF CONTACT SENSITIZATION IN SLOVAKIA OVER THE PAST DECADE

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Patch testing is standard procedure to detect sensitization to contact allergens and the first step in proving causal relationship to contact allergy. Sensitization data that are collected correctly over prolonged period of time, may serve the additional benefit of predicting significant environmental threat(s) and challenges to intervention.

We have analyzed the longitudinal data on the frequency of sensitization to contact allergens in routine set of patch tests and classified them according to absolute frequency and time change. The ultimate goal has been to identify chemicals requiring focused attention.

Since 1997, we have patch tested 3385 consecutive patients. The average rate of at least one positive reaction was 47%/year (range: 39-54%). Top 4 contact sensitizers were Ni, fragrance, Cr and Co. Linear regression model of the time series showed that sensitization to chromium rose by 6%/year while that to Ni and Co remained stable. (Cl)methylisothiazolinones ranked low in frequency of contact sensitization 1,4% in 1997, but paced fast due to yearly increase of 10,5%. Reactivity to sesquiterpenes rose by 13%/year, however, still keeping at 1,6% in 2006. Sensitization to thiurams rose by 8%/year, but that to isopropyl-PPD, benzocain and PPD decreased yearly by -8%, -7% and -2,3%. Sensitization to parabens remained stable.

With respect to immediate and future epidemiologic significance, CrVI and (Cl)methylisothiazolinones are the most important contact allergens requiring appropriate attention and intervention.

REACTIONS TO INTERNAL METAL IMPLANTS IN PATIENTS ALLERGIC TO NICKEL OR COBALT

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Despite large numbers of metal implants from orthopedic, cardiac, or dental procedures, the lack of reporting of large numbers of allergic reactions to these implants seem to indicate that even people who are patch test positive to a metal, often tolerate an implant containing that particular metal in the body. Never-the-less, many legitimate cases have been reported in which patients apparently had allergic reactions to internal implants. Reactions from these implants have ranged from localized dermatitis directly over the implant to systemic rashes and generalized symptoms.

To demonstrate the variety in clinical presentation and symptomatic improvement possible when an implant is removed after the development of an allergic reaction, we present five cases of patch test positive patients who had apparent allergic reactions to metal implants. These implants include 1) a stainless steel dental post, 2) two cases with stainless steel screws, 3) a chrome/cobalt/molybdenum dental prosthesis, and 4) a nitinol (nickel/titanium) occluder for a patent foramen ovale. Removal of the implants in these patients resulted in immediate resolution of reactions in four of the cases, and immediate improvement followed by a slow resolution in the other.

Poster Presentations

SPA CONTACT DERMATITIS

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Potassium monopersulfate (MPS) is widely used in spa and pool "shock" treatments, yet contact dermatitis associated with MPS has been rarely reported. A patient presented with a generalized scattered dermatitis from the neck down which worsened after spa use. Patch testing elicited a +2 positive reaction to ammonium persulfate. Contact with ammonium persulfate was ruled out; however, potassium monopersulfate which can cross-react with ammonium persulfate was found to be the active ingredient used in the patient's spa shock treatments. The dermatitis cleared after the patient switched to a hydrogen peroxide-based shock treatment

ATOPIC DISEASES, INTESTINAL PARASITES AND SERUM IMMUNOGLOBULIN E IN ETHIOPIAN SUBJECTS

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The interaction of atopy and intestinal parasites is still a matter of debate. Both conditions are associated with an increased level of serum immunoglobulin E. The mechanism of this association has not been fully elucidated. In this study we aimed to assess an interaction(s) among atopy, intestinal parasites and immunoglobulin E. One hundred eighty subjects were questioned for the presence of atopy, skin scratch tested for five common allergens, stool examined and total serum IgE determined and compared with controls, after formal ethical clearance. The prevalence of self reported atopy was 29.4%. Positive reaction was detected in 49% of the subjects. Self reported atopy or positive skin scratch test was observed in 64.4%. Intestinal parasitosis with a general prevalence of 36.7% has decreased frequency in atopics. This decreased prevalence is mainly seen in infections with *A. lumbricoides* and *S. stercoralis*. Increased mean serum IgE was seen in atopy and in some parasites. The results demonstrate a high prevalence of atopy and intestinal parasitosis. A reverse relation was observed between some parasites and atopy. Some parasites cause increased serum IgE level without affecting the occurrence of atopy. A different immunologic mechanism of preventing atopy in parasite infested patients should be sought

COCONUT VERSUS OLIVE OIL IN ATOPIC DERMATITIS: A RANDOMIZED CONTROLLED TRIAL

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Background: Laboratory and clinical studies have reported antimicrobial properties of Virgin Coconut Oil (VCO) and Virgin Olive Oil (VOO)

Objective: In Atopic Dermatitis (AD), compare VCO versus VOO in decolonizing *Staphylococcus aureus* and reducing disease severity, measured by SCORAD.

Materials and Methods: Included were fifty two patients with moderate to severe AD, not taking topical or oral antibiotics at least two weeks prior to enrolment, and gave informed consent. Excluded: those with additional dermatoses, hypersensitivity to both oils, severe infection requiring systemic antimicrobial treatment, and co-morbid disease. Skin swabs were taken for baseline and end of study *Staphylococcus aureus* cultures of patients randomized into two groups: Either group to receive and apply twice daily 5 ml of VCO or VOO.

Results: Demographics for the two groups were comparable $P \geq 0.10$. Of the 26 VCO patients, 20 (+) for *S. Aureus*, 1 (5%) did not clear; of the 26 VOO, 12 (+) for *S. Aureus*, 6 (50%) did not clear. [RR= 0.10, 95% CI .01- 0.73, $p = .0028$]. SCORAD reduction was statistically significant for VCO 32.9 to 23 points (46.8%); for VOO 35.5 to 18.9, (30.1%), Wilcoxon Signed Ranks $p < 0.005$, but VCO dropped more than VOO, mean difference of -4.1, $p = .004$). Adverse reactions were 0 for both oils.

Conclusion: In AD, VCO, more than VOO: significantly: decolonized *S. aureus*; produced emollient effects (reduced dryness); and was anti-inflammatory (reduced erythema, edema/papulation, oozing/crusts); without adverse reactions.

RUBBER CONTACT DERMATITIS

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Background: Today contact with rubber products is very common since there are countless products made of this material. Contact dermatitis caused by rubber components may be occupational or not.

Objectives: 1) to characterize the population with positive test results to rubber components according to sex, location, duration of skin condition and the relation between contact dermatitis and occupation; 2) to determine the frequency of positive test results to rubber components and 3) to check the main materials with sensitizing substances in their composition.

Methods: Between 2004 and 2006, patients with a presumptive diagnosis of contact dermatitis underwent patch tests. Individuals with positive tests to rubber components were selected.

Results: Out of 291 patients tested, 25(8.6%) presented a positive test to at least one rubber component; 52% were males and 48% were females. The main site involved were the feet(60%). Eight cases(32%) were related to occupation. Shoes accounted for the skin condition in 15 cases, followed by rubber gloves (6 cases). Twenty-four patients(96%) had a chronic clinical course. A total of 38 positive tests related to rubber were obtained, with the most common ones including PPD-mix and Carba-mix.

Conclusion: Contact dermatitis to rubber is significant in our setting and it is similar in men and women. The site most commonly involved was the feet. The disease presented a chronic clinical course. Rubber components with greater frequency of sensitization were PPD-mix and Carba-mix. The main materials containing the sensitizing materials were shoes, followed by rubber gloves.

CONTACT SENSITIVITIES IN VULVAR DISEASE

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Background: The value of patch testing in vulvar diseases has been controversial.

Objective: Document our experience with patch testing in the context of vulvar diseases using a gynecologic series in addition to our standard series.

Methods: Retrospective analysis of patch testing in patients with vulvar diseases at Mayo Clinic between January 2001 and December 2006.

Results: Patch testing was performed on 50 patients with the following presenting vulvar symptoms: pruritus (48%), burning (32%), pain (12%), irritation (6%), and no symptom (2%). Twenty (40%) had at least one positive patch test result. The most frequently positive allergens were Terazol 3 (terconazole) (14.0%), conjugate estrogen (10.0%), miconazole (10.0%) benzoic acid (8.0%), sorbitan monooleate (Span 80) (6.0%), Femstat (butaconazole nitrate) (4.9%), Vagistat (tioconazole), and Replens (4.1%). Of 39 positive reactions to allergens, 8 (20.5%) were of definite relevance and 31 (79.5%) of questionable relevance at the day 5 reading.

Conclusion: Patch testing is often positive in patients with vulvar symptoms. Positive reactions to commonly used vulvovaginal medications and products were most frequently observed.

CONTACT DERMATITIS TO POLYMYXIN B

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Polymyxin B is an antibiotic that strictly targets gram-negative bacteria. It can be commonly found in combination with other antimicrobials in topical, ophthalmic and otic preparations. We present the case of a 13 year-old boy who developed a dermatitis along his right arm and trunk after using Polysporin Pain Relief (PPR) cream® following a fall. Subsequent patch testing showed positive reactions to his PPR cream as well as polymyxin B sulfate, a known ingredient contained within this topical preparation.

There are no reports in the English dermatology literature of contact allergy to polymyxin B alone. Most cases of positive reactions occur in the setting of compounded mixtures with other well-known antibacterial sensitizers, such as neomycin and bacitracin. Polymyxin B is not included in most standard contact allergen trays, and is rarely tested on its own; therefore, it is possible that many of these allergies are being overlooked.

Although polymyxin B contact allergy is an uncommonly reported phenomenon, this unique case demonstrates that it can indeed occur on its own, and as such, should be routinely considered as a possible sensitizer in the appropriate clinical setting.

RETROSPECTIVE REVIEW OF PATIENTS EVALUATED FOR ALLERGY TO METAL DEVICES

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INTRODUCTION: Increasing number of patients, usually with metal allergy, are being sent for pre-procedure and occasionally post-procedure patch testing.

OBJECTIVES: 1) To evaluate the influence of patch testing on physician choice of implant device. 2) To evaluate implant/prosthesis status for any dermatitis or device failure in metal allergic patients.

METHODS: Charts of 66 patients who were patch tested with our prosthesis tray from 2003 to 2007 were reviewed.

RESULTS: The average age of all patients was 54 years and 70% were female. Preoperatively, 13 of 29 patients had follow-up information available and were patch test positive to at least one metal. Eleven patients received devices with alternative metals and 2 received a prosthesis containing a metal to which they had a positive patch test without complications. Post surgical patch testing was done in 37 patients. However, only 5 of 13 patients positive to at least one metal had enough follow-up information to identify a potential relationship between metal implant and contact allergy. Two of 5 had localized dermatitis, which resolved in 1 case without implant removal but continued in the second after removal of the implant. One patient with disseminated dermatitis and 2 others with non-specific systemic symptoms remained symptomatic without removal of the devices.

CONCLUSION: Patch testing seemed to influence physician choice of implant devices. The correlation between positive patch test to device components and adverse reactions needs further clarification

ALLERGENS IN FACIAL CONTACT DERMATITIS

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Objective: Face involvement is frequent in allergic contact dermatitis (ACD). Our aim was to determine the frequent allergens of facial contact dermatitis in a group of Turkish patients. Materials and methods: This study constituted 406 patients with facial contact dermatitis that were applied patch test between 2001 and 2007 at our Contact Dermatitis outpatient Clinic. The data including age, sex, clinic features, patch test series, positive reactions and atopy histories of the patients were retrospectively reviewed. In the study, the most frequent allergens according to age and sex were evaluated. Patients were grouped according to their ages: Group I: <20 age; Group II: 20-40 age, Group III: 40-60 age, Group IV: >60 age. In the study, regarding patients' clinical findings, the most frequent allergens for a specific area of the face were also evaluated.

Results: Of 406 patients 171 (146 female, 25 male) had positive patch test results. Atopy history was present in 7.6% of the patients. Positive reactions were mostly observed in females and in Group II while nickel sulphate was the most common allergen in both sexes and in all age groups. Frequency order of allergens in females were nickel sulphate, cobalt chloride, fragrance mix, butilen formaldehyde p-tertial resins, neomisin sulphate, tixocortol-21-pivalate and in men were nickel sulphate cobalt chloride, balsam of peru and paraben mix.

Conclusion: Facial ACD is found to be common in females at 20-40 years of ages in this retrospective study. This finding is probably related to the frequent use of cosmetics in these ages. For this reason, awareness of the ingredients of common cosmetics is necessary to prevent these reactions

GLYCERYL MONOTHIOLYCOLATE (GTG) : A REVIEW

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Background: GTG is an ingredient of hot permanent. Its characteristics were well studied by Storrs in 1984 and 1988.

Objective : Although its incidence is decreasing in some countries, in others its frequency has been keeping the same. Therefore, it is worth reviewing some of its aspects.

Discussion: It can cause not only allergic contact dermatitis but also contact urticaria, affecting mainly hairdressers, but, less frequently, also the clients. The lesions appear on hands, arms, neck and face. The hairdresser's hand dermatitis shows a predilection for the fingertips. The substance remains on the hair for up to 3 months after the permanent waving. It can also go through most

types of gloves. The household-weight neoprene glove and the 4-hour glove block penetration of the allergen. The GTG permanent waving solution may spill over work tables and instruments contaminating the salon.

Conclusion: GTG is an allergen from permanent that can cause damage mainly in hairdressers. It is important to remember the aspects mentioned above in order to avoid the missing of the diagnosis, especially in countries where it is not tested routinely.

A CASE SERIES OF ACUTE ALLERGIC CONTACT DERMATITIS OF THE LIPS SECONDARY TO USE OF PEPPERMINT OIL IN A LIP BALM

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The etiology of cheilitis is often not readily apparent. We present a case series of 4 patients with allergic contact cheilitis (ACC) secondary to peppermint oil in a lip balm product known as Burt's Bees. These patients developed papulovesicular eczematous dermatitis involving their lips and glabrous perioral skin. Their eruptions evolved to scale, cracked and healed with post inflammatory hyperpigmentation. They were tested to the allergens in the North American Standard Series, as well as to an expanded array of flavoring agents, sunscreen, plant and fragrance components, and their own products. Burt's Bees products contain potential sensitizers such as beeswax, propolis, lanolin, coconut oil, almond oil, peppermint oil, vitamin E, sunflower oil, comfrey root extract, and rosemary. Our patch test results showed that peppermint oil was the most likely culprit for ACC in these patients.

Peppermint oil is less commonly reported as causing ACC than more common contactants such as Balsam of Peru or Nickel Sulfate. However, with the widespread use of Burt's Bees products, more cases of peppermint oil induced ACC may be expected

POSITIVE PATCH TEST REACTIONS TO MIXED DIALKYL THIOUREAS: ANALYSIS OF CROSS-SECTIONAL DATA FROM THE NACDG, 1994-2004

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Background

Allergy to thioureas is uncommon.

Objectives

- 1) Describe the population with positive patch tests to mixed dialkyl thioureas (diethylthiourea and dibutylthiourea, MDTU); 2) determine clinical and occupational relevance of MDTU reactions; 3)

identify commonly-related sources and occupations; and 4) examine the frequency of co-reacting allergens in MDTU-positive patients.

Methods

Retrospective analysis of cross-sectional data of 22,025 patients patch tested by the North American Contact Dermatitis Group (NACDG) between 1994 and 2004.

Results

21,898 patients were tested to MDTU; 225 (1.0%) had positive reactions. 173 (76.9%) were currently relevant and 29 (17.1%) were occupationally relevant. Patients positive to MDTU were 2.6 times more likely to have foot involvement than patients with positive reactions to other allergens ($p < 0.0001$). Footwear was the most commonly identified source overall (20.0%), whereas gloves were the most common occupational source. In the 173 patients with currently relevant MDTU reactions, 24.9% were also positive to another rubber allergen.

Conclusions

Current clinical relevance of reactions to MDTU was high; occupational relevance was less frequent. Common rubber allergens (carbamates, thiurams, and mercaptobenzothiazole) may fail to detect many cases of thiourea-induced rubber ACD.

FORMALDEHYDE PRESERVED FLU VACCINE TOLERABILITY DESPITE FORMALDEHYDE SENSITIVITY

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An 81 year old man with a history of heart disease, developed an extensive pruritic dermatitis with erosions and blisters. A skin biopsy showed spongiotic dermatitis and a direct skin immunofluorescence study was negative. Treatment consisted of Prednisone, antihistamines, topical corticosteroids and antibiotics for secondary impetigo, as well as avoidance of skin irritants. One month after tapering off systemic corticosteroids, he was patch tested and found to have a strong 2 plus reaction to formaldehyde at 96 hours. Avoiding formaldehyde-containing products led to dramatic improvement. Later, at the strong urging of his internist, he received a flu vaccine containing up to 50 mcg formaldehyde with no ill effect.

ACDS 2008 Calendar



Important Dates in 2008

- April 15 **Mentoring Award** applications due.
- October 15 **Mentoring Award** applications due.
- September 1 **Nominations** for ACDS Board of Directors and President-Elect due.
- November 15 **Clinical Research Fellowship** applications due.
- December 1 **Abstract Submissions due for 2007 ACDS Annual Meeting**
- December 1 **Maibach Travel Award** applications due.
- December 1 **Alexander A. Fisher Resident Award** applications due.

Upcoming Meetings

- August 28-30, 2008 **Blending Science with Best Practice: Combined Meeting of the ECDRG and ACDS** Montreal, Canada
- March 5, 2009 **20th Annual Meeting of ACDS**, San Francisco, CA

Mark Your Calendar!

**American Contact Dermatitis Society
20th Annual Meeting**

March 5, 2009
San Francisco, CA