

Table of contents

Environmental dermatological allergy	1
Immune reactions to Pityrosporum ovale in adult patients with atopic and seborrheic dermatitis.....	1
Atopic dermatitis of the face, scalp, and neck: Type I reaction to the yeast Pityrosporum ovale?	2
Histamine-releasing serum factors as a predictor of the outcome of insect sting reactions. Results from a multicentre study	2
Immediate and delayed contact hypersensitivity to verbena plants	3
IgE-binding components of staphylococcal enterotoxins in patients with atopic dermatitis .	3
Occupational type I allergy to Christmas cactus (Schlumbergera)	4
Volatile organic compounds from the indoor mould Trichoderma viride cause histamine release from human bronchoalveolar cells	4
Chlamydia pneumoniae and possible relationship to asthma.....	4
IgE-sensitization to cellular and culture filtrates of fungal extracts in patients with atopic dermatitis.....	5
Immediate allergic and nonallergic reactions to Christmas and Easter cacti.....	6
Increased release of histamine in patients with respiratory symptoms related to perfume ..	7

Environmental dermatological allergy

Immune reactions to Pityrosporum ovale in adult patients with atopic and seborrheic dermatitis

Journal of the American academy of Dermatology 1990

[M Kieffer](#), [I M Bergbrant](#), [J Faergemann](#), [G B Jemec](#), [V Ottevanger](#), [P Stahl Skov](#), [E Svejgaard](#)

Link: <https://pubmed.ncbi.nlm.nih.gov/1693386/>

Abstract

Pityrosporum ovale is a lipophilic yeast commonly present in the seborrheic areas of the skin of adults. Fifty-five young adult patients with atopic dermatitis, 19 patients with seborrheic dermatitis, and 19 healthy control subjects were examined for immune reactions to P. ovale, including tests for specific IgE antibodies (prick test, histamine release), IgG antibodies and epicutaneous testing. IgE antibodies against P. ovale were found in two thirds of the patients with atopic dermatitis and were more frequent in patients with lesions predominantly in the seborrheic areas. In addition, some atopic patients had positive reactions to

epicutaneous tests, which suggest that delayed allergic reactions to *P. ovale* may also be important. In patients with seborrheic dermatitis, no evidence of immediate or delayed hypersensitivity to *P. ovale* was found. IgG antibody levels were low in all groups.

Atopic dermatitis of the face, scalp, and neck: Type I reaction to the yeast *Pityrosporum ovale*?

Journal of Allergy and Clinical Immunology 1992

[E Jensen-Jarolim](#), [L K Poulsen](#), [H With](#), [M Kieffer](#), [V Ottevanger](#), [P Stahl Skov](#)

Link: <https://pubmed.ncbi.nlm.nih.gov/1730839/>

Abstract

We have previously reported that a lipophilic yeast, *Pityrosporum ovale* (*P. ovale*) produced a high frequency of positive skin prick tests and in vitro histamine-release (HR) tests in patients suffering from atopic dermatitis (AD) of the face, scalp, and neck. In the present study, our aim was to confirm the involvement of *P. ovale*-specific IgE and to produce a standardized extract for diagnostic tests; 7/20 sera from patients with a positive HR test were positive in RAST. Several IgE-binding proteins could be detected with sodium dodecyl sulfate-polyacrylamide gel electrophoresis, followed by immunoblotting. Comparison of different extraction methods demonstrated that allergens were not released from *P. ovale* until after mechanical destruction of the yeast cells. Extraction of cultured *P. ovale*, obtained from the skin of various individuals suffering from AD of the face, scalp, and neck, resulted in very heterogenous patterns of constituents in sodium dodecyl sulfate-polyacrylamide gel electrophoresis and immunoblotting analysis. Nevertheless, all extracts were recognized by patients' IgE. *P. ovale* may express varying protein patterns, depending on either source or stage of differentiation. Thus, at present, skin and HR tests may be superior to other available assays for diagnosing type I reactions to *P. ovale* in AD of the face, neck, and scalp.

Histamine-releasing serum factors as a predictor of the outcome of insect sting reactions. Results from a multicentre study

Clinical and Experimental Allergy 1993

[H Mosbech](#), [P Stahl Skov](#), [F Ebbesen](#), [K Ebbesen](#), [S Norn](#), [K S Kristensen](#)

Link: <https://pubmed.ncbi.nlm.nih.gov/7687511/>

Abstract

Cord blood cells were incubated (passively sensitized) with sera from 27 patients with previous systemic reactions to insect stings. Histamine release (HR) from these cells was measured following exposure to venom extracts at increasing concentrations. The aim was to see whether this parameter could predict more efficiently than RAST and skin test the outcome of a subsequent re-sting. Results showed that HR from passively sensitized cells tended to reflect skin sensitivity and specific IgE levels. If patients were not re-stung during the follow-up period, HR from the passively sensitized cells frequently decreased whereas an increase was seen (in 6/13) when using sera collected after re-sting. In conclusion HR from passively sensitized cord blood cells could not satisfactorily predict re-sting reactions in the serum donors.

Immediate and delayed contact hypersensitivity to verbena plants

Contact Dermatitis 1995

[P C Potter](#), [S Mather](#), [P Lockey](#), [J D Knottenbelt](#), [E Paulsen](#), [P S Skov](#), [K E Andersen](#)

Link: <https://pubmed.ncbi.nlm.nih.gov/8565490/>

Abstract

Plants from the Verbenaceae family may cause contact dermatitis of unknown nature. This report describes 2 cases of allergic reactions to the Verbena species. A teenage boy developed an anaphylactic allergic response following contact with the leaves of Verbena hybrida. Characterization of the patient's specific IgE response to Verbena hybrida, using Western blots and autoradiography, identified the specific 62000 Dalton allergen present in the verbena leaves to which the patient reacted. This is the first report of an IgE-mediated immediate contact hypersensitivity reaction to Verbena hybrida, a common perennial in South African gardens. The other case was a 23-year-old female gardener who developed immediate and delayed-type contact dermatitis from Verbena elegans 'Cleopatra' produced in a Danish nursery. Prick tests to plant material were considered positive and of an allergic nature.

IgE-binding components of staphylococcal enterotoxins in patients with atopic dermatitis

Annals of Allergy, Asthma & Immunology 1997

[D Nissen](#), [L J Pedersen](#), [P S Skov](#), [G L Vejlsgaard](#), [L K Poulsen](#), [J O Jarløv](#), [T Karlsmark](#), [H Nolte](#)

Link: <https://pubmed.ncbi.nlm.nih.gov/9396971/>

Abstract

Background: The exacerbation of atopic dermatitis may be associated with infection of the skin with Staphylococcus aureus (S.aureus). S. aureus isolated from the skin of patients with atopic dermatitis secretes enterotoxin A, B, and toxic shock syndrome toxin 1. This is of interest because these patients may develop specific IgE antibodies against components from staphylococci.

Objective: The objective was to demonstrate IgE-sensitization to components of Staphylococcus aureus enterotoxins A and B (purified and partially purified), toxic shock syndrome toxin 1, and the bacterial cell component lipoteichoic acid, in patients with atopic dermatitis.

Methods: Blood samples from 34 patients with atopic dermatitis and 10 controls were tested by leukocyte histamine release to the enterotoxins and lipoteichoic acid. The toxins were separated by sodium dodecylsulfate polyacrylamide gel electrophoresis and analyzed by IgE-immunoblotting with sera from the same patients.

Results: The majority of patients (96%) with clinical signs of skin infection produced specific IgE-antibodies to all three toxins. Nearly half of the patients produced IgE to enterotoxin A and B. Only 63% of the patients with atopic dermatitis showed cellular response judged by the release of histamine from patient basophils

when challenged in vitro with the toxins. This may indicate clinically unimportant sensitization in a number of patients. The immunoblotting revealed that the major allergens of the toxins were 24 and 28 kD proteins. Partially purified toxins showed a higher frequency of leukocyte histamine release responses than purified toxin. The only obvious difference was a difference in the content of pure toxin of the two preparations. Lipoteichoic acid showed nonspecific activity.

Conclusion: These findings suggest that staphylococcal enterotoxins may act as specific allergens and induce IgE-antibodies to enterotoxins that may exacerbate the skin inflammation in some patients with atopic dermatitis.

Occupational type I allergy to Christmas cactus (*Schlumbergera*)

Allergy 1997

[E Paulsen](#), [P S Skov](#), [C Bindslev-Jensen](#), [V Voitenko](#), [L K Poulsen](#)

Link: <https://pubmed.ncbi.nlm.nih.gov/9226060/>

Abstract

The study aimed to determine whether occupational contact urticaria and symptoms of mucous membranes, reported by five workers in a cactus nursery, were due to IgE-mediated allergy to *Schlumbergera* cacti. The five persons had positive skin prick tests to the plants as is and positive histamine-release tests, and in three of them specific IgE to the cacti could be demonstrated by Maxisorp RAST and immunoblotting. Four of the patients were atopic, and the fifth had a positive skin prick test to cat dander, indicating latent atopy. Skin prick tests with cacti were negative in most atopic volunteers, and all had negative histamine-release tests. The results suggest a true IgE-mediated allergy to the cacti, and both genetic predisposition and close contact with the plants at work seem to be important factors in the emergence of this new occupational allergy.

Volatile organic compounds from the indoor mould *Trichoderma viride* cause histamine release from human bronchoalveolar cells

Inflammation Research 1998

[F O Larsen](#), [P Clementsen](#), [M Hansen](#), [N Maltbaek](#), [T Ostenfeldt-Larsen](#), [K F Nielsen](#), [S Gravesen](#), [P S Skov](#), [S Norn](#)

Link: <https://pubmed.ncbi.nlm.nih.gov/9561390/>

No abstract available

Chlamydia pneumoniae and possible relationship to asthma

APMIS 1998

[F O Larsen](#), [S Norn](#), [C H Mordhorst](#), [P S Skov](#), [N Milman](#), [P Clementsen](#)

Link: <https://pubmed.ncbi.nlm.nih.gov/9833693/>

Abstract

Chlamydia pneumoniae (C.pn.) is claimed to be of importance for the development of bronchial asthma in previously healthy individuals. This is a new and speculative theory. Earlier studies have mainly focused on C.pn. and exacerbation of asthma. If this new theory were true, one would expect titres of C.pn.-specific IgG to be higher or more common in patients compared with controls. It would also seem probable that pathobiological mechanisms as found in connection with other microorganisms could be demonstrated, i.e. presence of C.pn.-specific IgE and the capability of C.pn. to induce or enhance histamine release from basophil leukocytes. We therefore examined C.pn.-specific IgE, IgG and IgM in sera from 22 adults with bronchial asthma and 25 healthy controls. IgE was verified by passive sensitization of basophils from umbilical cord blood. The prevalence of IgE was approx. 69% and IgG approx. 23% in both groups. IgG-titres were between 1:16 and 1:64 in both groups. No IgM was found. Further, C.pn. could neither induce nor enhance histamine release from basophil leukocytes of patients or controls. We conclude that patients with bronchial asthma and healthy controls do not differ in relation to 1) C.pn.-specific IgE in sera, 2) the capability of C.pn. to induce or enhance histamine release from basophil leukocytes, since no such effect was found, or 3) previous C.pn. infection judged by the presence of specific IgG antibodies. Our results cannot support the theory that C.pn. is a cause of adult-onset asthma.

IgE-sensitization to cellular and culture filtrates of fungal extracts in patients with atopic dermatitis

Annals of Allergy, Asthma & Immunology 1998

D Nissen, L J Petersen, R Esch, E Svejgaard, P S Skov, L K Poulsen, H Nolte

Link: <https://pubmed.ncbi.nlm.nih.gov/9759803/>

Abstract

Background: Patients with atopic dermatitis may experience exacerbations of eczema triggered by various inflammatory stimuli. One mechanism may be IgE-mediated reactions to dermatophytes since these patients are more likely to acquire skin infections with dermatophytes and may become sensitized.

Objective: This study investigates IgE-sensitization to fungi in patients with atopic dermatitis and compares the biologic activity of culture filtrates and cellular fungal extracts. The following allergen extracts were provided as culture filtrates and cellular extracts: *Candida albicans*, *Fusarium moniliforme*, and *Penicillium notatum*. In addition, *Pityrosporum ovale* and *Trichophyton rubrum* cultures were included in the test panel.

Methods: Fifteen patients with clinical findings suggesting dermatophytosis and 11 controls were selected. Each subject was tested by leukocyte histamine release and skin prick test to each fungal extract. The extracts were separated and reduced by sodium dodecylsulfate polyacrylamide gel electrophoresis and analyzed by IgE-immunoblotting with sera from all study subjects.

Results: Fourteen patients (93%) reacted to one or several fungal extracts by releasing histamine when challenged in vitro. By immunoblotting experiments, patient sera showed binding to a wide range of components in all extracts. Patient sera recognized allergenic components shared by culture filtrates and cellular extracts but with higher frequent and greater intensity in culture filtrates. Although culture filtrates generated more frequent and potent IgE-reactions than the cellular extracts, the difference was not

statistically significant. Biologic potency was similar when evaluated by skin prick tests and leukocyte histamine release.

Conclusion: Patients with atopic dermatitis may develop specific IgE-antibodies to a number of fungi as demonstrated by IgE-immunoblotting. In selected patients, fungi may trigger an IgE-mediated reaction that may contribute to the exacerbation of eczema. Approximately, one-half of the patients, however, produced IgE-antibodies to fungal (glyco)proteins without a significant histamine release or skin test response possibly because of nonspecific interaction with carbohydrate moieties on IgE and poor biologic activity of IgE antibodies directed to cross-reactive carbohydrate determinants of fungal glycoproteins. This warrants caution when interpreting clinical relevance of serologic measurements of fungal IgE-antibodies.

Immediate allergic and nonallergic reactions to Christmas and Easter cacti

Allergy 1999

[F Andersen](#), [C Bindsvlev-Jensen](#), [P Stahl Skov](#), [E Paulsen](#), [K E Andersen](#)

Link: <https://pubmed.ncbi.nlm.nih.gov/10380785/>

Abstract

Background: Occupational exposure to Christmas cacti has been reported as a cause of type I allergy. Therefore, the prevalence of immediate-type mucosal and skin reactions related to cactus exposure was studied in 103 employees in a cactus nursery.

Methods: The study was based on a questionnaire followed by clinical examination, skin prick tests (SPT) with standard inhalant allergens and cacti, and a histamine-release test (HRT/Refix) using fresh cactus extracts as elicitor.

Results: The questionnaire was answered by 84 (82%) of the nursery employees, and 63 (61%) were interviewed and skin prick tested; 58 of these were tested with HRT/Refix. Furthermore, 22 healthy controls were included and tested in vivo and in vitro. Cactus-related contact urticaria and/or rhinoconjunctivitis were reported by 37% of the cactus workers. Based on a combination of positive history, positive SPT, and positive HRT/ Refix to cactus, 8% of the cactus workers were allergic to cacti. No noncactus workers or controls were allergic to cacti by these criteria. Testing with fresh cactus material elicited positive SPT and negative HRT/Refix in 27 nursery workers and controls, of whom 12 had immediate-type skin and mucosal symptoms.

Conclusions: Christmas and Easter cacti seemed to be able to induce contact urticaria and rhinoconjunctivitis on both an immunologic and a nonimmunologic basis. Personal atopy was associated with positive reactions to cacti.

Increased release of histamine in patients with respiratory symptoms related to perfume

Clinical and Experimental Allergy 2007

J Elberling, P S Skov, H Mosbech, H Holst, A Dirksen, J D Johansen

Link: <https://pubmed.ncbi.nlm.nih.gov/17877753/>

Abstract

Background: Environmental perfume exposure may cause respiratory symptoms. Individuals with asthma and perfume contact allergy report such symptoms more frequently than others. However, immunologic mechanisms have not been demonstrated and the symptoms are not associated with IgE-mediated allergy. The study aimed to investigate whether basophils from patients with respiratory symptoms related to perfume released more histamine in the presence of perfume as compared with healthy volunteers.

Methods: Histamine release was measured by the glass fibre method. Blood was obtained from healthy volunteers (n=20) and patients with respiratory symptoms related to perfume (n=17) attending a dermatological outpatient clinic for patch testing. The effect of an international brand perfume was investigated using the basophil histamine release test with perfume. Furthermore, basophils from a healthy non-atopic donor were incubated with participant's sera and histamine release induced by perfume was measured.

Results: In both groups incremental perfume concentrations showed a positive and significant ($P < 0.001$) dose-response effect on the release of histamine. At the highest perfume concentration, the basophils released significantly ($P < 0.05$) more histamine in patients as compared with healthy volunteers. No difference was found between the groups when sera were incubated with basophils from a healthy non-atopic donor.

Conclusion: Perfume induces a dose-dependent non-IgE-mediated release of histamine from human peripheral blood basophils. Increased basophil reactivity to perfume was found in patients with respiratory symptoms related to perfume.