The 3 mm skin prick test (SPT) threshold criterion is not reliable for Tyrophagus putrescentiae: the re-evaluation of SPT criterion to dust mites.

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Publication Type: Article

Keywords: Adult
Antibody Specificity - immunology
Comparative Study
Croatia
Cross Reactions - immunology
Dermatophagoides farinae - immunology
Dermatophagoides pteronyssinus - immunology
Female
Humans
Immunoglobulin E - blood - immunology
Male
Middle Aged
Proteins - immunology
Pyroglyphidae - immunology
Regression Analysis
Reproducibility of Results
Sensitivity and specificity
Skin Tests - standards
Urban health

Abstract: BACKGROUND: The mean wheal diameter >/= 3 mm is the usual criterion for positive skin prick test (SPT) reaction to dust mites. The study assessed the accuracy of this SPT criterion with respect to specific IgE values of above 0.35 kUA/l (+ sIgE). METHODS: Specific IgE (ImmunoCAP, Pharmacia AB Diagnostics, Uppsala, Sweden) and standard SPT to Dermatophagoides pteronyssinus (DP) and farinae (DF), Lepidoglyphus destructor (LD) and Tyrophagus putrescentiae (TP) (ALK, Hørsholm, Denmark) were performed in a random sample of 457 subjects, of whom 273 men (mean age 35.3 +/- 11.0 years) and 184 women (mean age 37.9 +/- 9.5 years). Statistical analysis was performed using the chi-square test, regression analysis and discriminant analysis. RESULTS: When the mean wheal diameter of >/= 3 mm was considered positive (+ SPT), the correlation between + SPT and + sIgE was 0.47 for DP (P

PubMed ID: 12464048 View in PubMed

The -112G>A polymorphism of the secretoglobin 3A2 (SCGB3A2) gene encoding uteroglobin-related protein 1 (UGRP1) increases risk for the development of Graves' disease in subsets of patients with elevated levels of immunoglobulin E.

https://arctichealth.org/en/permalink/ahliterature138513

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Keywords: Adolescent
Adult
Asthma - genetics
Case-Control Studies
Female
Genetic Association Studies
Genetic markers
Genetic Predisposition to Disease
Genotype
Graves Disease - epidemiology - genetics
Humans
Hypersensitivity - genetics
Immunoglobulin E - blood
Male
Odds Ratio
Polymorphism, Single Nucleotide
Promoter Regions, Genetic
Russia - epidemiology
Secretoglobins
Sequence Analysis, DNA
Uteroglobin - blood - genetics
Young Adult

Abstract: The human secretoglobin 3A2 (SCGB3A2) gene encoding secretory uteroglobin-related protein 1 (UGRP1) resides on the chromosome region 5q31-33 that harbors a susceptibility locus to several autoimmune and inflammatory diseases, including asthma and Graves' disease (GD). Recently, association between the marker rs1368408 (-112G?>A), located in the promoter region of the SCGB3A2 gene, and susceptibility to GD was found in Chinese and UK Caucasians. The study aim was to evaluate whether this polymorphism confers GD susceptibility in a large population cohort comprising 1,474 Russian GD patients and 1,619 controls. The marker rs1368408 was studied using a TaqMan allele discrimination assay. Serum levels of UGRP1 and immunoglobulin E (IgE) were assessed using enzyme-linked immunosorbent assay (ELISA) analyses. Association between the allele A of SCGB3A2 and a higher risk of GD (odds ratio [OR] = 1.33, P = 2.9 × 10(-5)) was shown. Both affected and non-affected carriers of the higher risk genotype A/A had significantly decreased levels of serum UGRP1 compared to the subjects homozygous for G/G (93 ± 37 pg/ml vs. 132 ± 45 pg/ml, P = 0.0011 for GD patients; 77 ± 28 pg/ml vs. 119 ± 33 pg/ml, P = 0.0019 for controls). Serum IgE levels were significantly higher in non-affected subjects homozygous for A/A compared to control individuals homozygous for G/G (153 ± 46 IU/ml vs. 122 ± 40 IU/ml, P = 0.0095). Our data suggest that the carriage of the SCGB3A2 -112A/A variant increases the risk for GD in subsets of patients with elevated levels of IgE, a hallmark of allergic asthma. Therefore, the SCGB3A2 -112G?>A polymorphism may be considered as a likely marker linking susceptibility to allergy/asthma and GD on chromosome 5q31-33.

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Accidental ingestions in children with peanut allergy.

https://arctichealth.org/en/permalink/ahliterature168012

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Source: J Allergy Clin Immunol. 2006 Aug;118(2):466-72
Date: Aug-2006
Language: English
Publication Type: Article
Keywords: Adolescent
Child
Child, Preschool
Environmental Exposure
Female
Humans
Immunoglobulin E - blood
Male
Peanut Hypersensitivity - epidemiology
Quebec - epidemiology
Questionnaires
Abstract: Accidental exposure to peanut has been reported to occur frequently. Total avoidance of peanut is difficult because of its widespread use, manufacturing and labeling errors, utensil contamination, and label misinterpretation.

Given the apparent increased awareness of peanut allergy by both consumers and food manufacturers, we aimed to determine the current frequency of accidental exposures occurring in peanut allergic children in Quebec and to identify factors associated with exposure.

The parents of children with peanut allergy diagnosed at the Montreal Children's Hospital completed questionnaires about accidental exposure to peanut occurring over the period of the preceding year. Logistic regression was used to identify associated factors.

Of 252 children, 62% were boys, with a mean age of 8.1 years (SD, 2.9). The mean age at diagnosis was 2.0 years (SD, 2.1). Thirty-five accidental exposures occurred in 29 children over a period of 244 patient-years, yielding an annual incidence rate of 14.3% (95% CI, 10.0% to 19.9%). Fifteen reactions were mild, 16 moderate, and 4 severe. Of 20 reactions that were moderate to severe, only 4 received epinephrine. Eighty percent of children attended schools prohibiting peanut, and only 1 accidental exposure occurred at school. No associated factors were identified.

Accidental exposure to peanut occurs at a lower frequency than previously reported, but most reactions are managed inappropriately.

Enhanced awareness, access to safer environments, and good food manufacturing practices may have contributed to a lower incidence of inadvertent peanut exposure, but a further reduction and better education on allergy management are desirable.
PubMed ID: 16890773 View in PubMed

Activation of the immune system and systemic immune-complex deposits in Brown Norway rats with dental amalgam restorations.

https://arctichealth.org/en/permalink/ahliterature72544

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Source: J Dent Res. 1998 Jun;77(6):1415-25

Date: Jun-1998

Language: English

Publication Type: Article

Keywords:
Analysis of Variance
Animals
Antibody Formation - drug effects
Antigen-Antibody Complex - analysis - blood
Autoimmune Diseases - chemically induced
Autoimmunity
Body Burden
Comparative Study
Copper - analysis
Dental Amalgam - toxicity
Dinitrobenzenes
Female
Immune Complex Diseases - chemically induced
Immunoglobulin E - blood
Laminin
Lymphocyte Activation - drug effects
Mercury - analysis - blood - pharmacokinetics
Rats
Rats, Inbred BN
Rats, Inbred Lew
Research Support, Non-U.S. Gov't
Silver - analysis
Spectrum Analysis, Mass
Statistics, nonparametric
Tissue Distribution

Abstract: Dental amalgam restorations are a significant source of mercury exposure in the human population, but their potential to cause systemic health effects is highly disputed. We examined effects on the immune system by giving genetically mercury-susceptible Brown Norway (BN) rats and mercury-resistant Lewis (LE) rats silver amalgam restorations in 4 molars of the upper jaw, causing a body burden similar to that described in human amalgam-bearers (from 250 to 375 mg amalgam/kg body weight). BN rats with amalgam restorations, compared with control rats given composite resinous restorations, developed a rapid activation of the immune system, with a maximum 12-fold increase of the plasma IgE concentration after 3 wks (p 0.05). After 12 wks, BN rats with amalgam restorations showed significantly increased (p spleen > cerebrum occipital lobe > cerebellum > liver > thymus, and the tissue silver concentration was significantly (p

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Adoptive transfer of alveolar macrophages abrogates bronchial hyperresponsiveness.

https://arctichealth.org/en/permalink/ahliterature15196

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Source: Am J Respir Cell Mol Biol. 2004 Jul;31(1):22-7
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Publication Type: Article
Keywords: Adoptive Transfer
Animals
Asthma - physiopathology
Bronchi - drug effects - immunology - physiopathology
Bronchial Hyperreactivity - genetics - physiopathology - therapy
Bronchial Provocation Tests
Clodronic Acid
Disease Models, Animal
Dose-Response Relationship, Drug
Drug Resistance - physiology
Genetic Predisposition to Disease - genetics
Immunoglobulin E - blood
Immunoglobulin G - blood
Liposomes
Macrophages, Alveolar - drug effects - immunology - transplantation
Male
Methacholine Chloride - pharmacology
Ovalbumin - immunology
Rats
Rats, Sprague-Dawley
Reaction Time - drug effects - physiology
Research Support, Non-U.S. Gov't

Abstract: Increasing evidence suggests that alveolar macrophages (AM) are involved in asthma pathogenesis. To better understand the role that these cells play, we investigated the capacity of AM from allergy-resistant rat, Sprague Dawley (SD), to modulate airway hyperresponsiveness of allergy-susceptible rat, Brown Norway (BN). AM of ovalbumin (OVA)-sensitized BN rats were eliminated by intratracheal instillation of liposomes containing clodronate. AM from OVA-sensitized SD rats were transferred into AM-depleted BN rats 24 h before allergen challenge. Airway responsiveness to methacholine was measured the following day. Instillation of liposomes containing clodronate in BN rats eliminated 85% AM after 3 d compared with saline liposomes. Methacholine concentration needed to increase lung resistance by 200% (EC200RL) was significantly lower in OVA-challenged BN rats (27.9 +/- 2.8 mg/ml) compared with SD rats (63.9 +/- 8.6 mg/ml). However, when AM from SD rats were transferred into AM-depleted BN rats, airway responsiveness (64.0 +/- 11.3 mg/ml) was reduced to the level of naïve rats (54.4 +/- 3.7 mg/ml) in a dose-dependent manner. Interestingly, transfer of AM from BN rats into SD rats did not modulate airway responsiveness. To our knowledge, this is the first direct evidence showing that AM may protect against the development of airway hyperresponsiveness.

Notes: Comment In: Am J Respir Cell Mol Biol. 2004 Jul;31(1):1-215208095

Comment In: Am J Respir Cell Mol Biol. 2004 Jul;31(1):3-715208096

PubMed ID: 14962974 View in PubMed

[Age-related characteristics of general and specific immunity in children with atopic bronchial asthma from the Volga region].

https://arctichealth.org/en/permalink/ahliterature181462

Author: Zh P Vasneva

Source: Klin Lab Diagn. 2003 Dec;(12):44-7

Date: Dec-2003

Language: Russian

Publication Type: Article

Keywords: Adolescent

Age Factors

Asthma - immunology

Child

Child, Preschool

Humans

Immunoglobulin E - blood

Russia

Abstract: The age-related peculiarities of indices of the total and specific immunity systems were comparatively studied in children with atopic bronchial asthma (ABA) at critical age intervals. The group of children aged 2 to 5 was shown to have a higher absolute quantity of CD3+, CD4+ and CD8+ lymphocytes, a relatively lower content of CD8+ and CD16+ lymphocytes, disimmunoglobulinemia, a higher level of total IgE (by 36.5 times), and an impaired functional activity of cells in the nonspecific resistance system. Higher levels of specific IgE-antibodies to pollen allergens were detected in 84.4% of cases in peripheral blood of ABA children; the content of the above antibodies (to mixed weed allergens, hemp, fescue, boon, bent, ryegrass, and sun-flower) were higher (p

PubMed ID: 14971327 View in PubMed

Airflow obstruction in young adults in Canada.

https://arctichealth.org/en/permalink/ahliterature163160

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Source: Can Respir J. 2007 May-Jun;14(4):221-7
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Publication Type: Article
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Age Distribution
Asthma - complications
Canada - epidemiology
Female
Health Surveys
Humans
Immunoglobulin E - blood
Lung Diseases, Obstructive - blood - epidemiology - physiopathology
Male
Respiratory Function Tests
Risk factors
Sex Distribution
Smoking - adverse effects
Abstract: Airflow obstruction is relatively uncommon in young adults, and may indicate potential for the development of progressive disease. The objective of the present study was to enumerate and characterize airflow obstruction in a random sample of Canadians aged 20 to 44 years.

The sample (n=2962) was drawn from six Canadian sites.

A prevalence study using the European Community Respiratory Health Survey protocol was conducted. Airflow obstruction was assessed by spirometry. Bronchial responsiveness, skin reactivity to allergens and total serum immunoglobulin E were also measured. Logistic regression was used for analysis.

Airflow obstruction was observed in 6.4% of the sample, not associated with sex or age. The risk of airflow obstruction increased in patients who had smoked and in patients who had lung trouble during childhood. Adjusted for smoking, the risk of airflow obstruction was elevated for subjects with past and current asthma, skin reactivity to allergens, elevated levels of total immunoglobulin E and bronchial hyper-responsiveness. Of the subjects with airflow obstruction, 21% were smokers with a history of asthma, 50% were smokers without asthma, 12% were nonsmokers with asthma and 17% were nonsmokers with no history of asthma. Bronchial hyper-responsiveness increased the prevalence of airflow obstruction in each of these groups.

Smoking and asthma, jointly and individually, are major determinants of obstructive disorders in young adults. Bronchial hyper-responsiveness contributes to obstruction in both groups.

Notes: Cites: CMAJ. 2001 Apr 3;164(7):995-100111314453
Cites: Am J Respir Crit Care Med. 1999 Jan;159(1):179-879872837
Cites: MMWR Surveill Summ. 2002 Aug 2;51(6):1-1612198919
Cites: Respirology. 2003 Jun;8(2):131-912753526
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Cites: Am Rev Respir Dis. 1989 Sep;140(3 Pt 2):S85-912675712
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Cites: Am J Respir Crit Care Med. 1995 May;151(5):1377-827735588
Cites: Am J Respir Crit Care Med. 1995 Jul;152(1):87-927599868
Cites: Am J Respir Crit Care Med. 1995 Jul;152(1):98-1027599870
Cites: Am J Respir Crit Care Med. 1996 Jun;153(6 Pt 1):1802-118665038
Cites: Eur Respir J. 1996 Apr;9(4):687-958726932
Cites: Br Med Bull. 1997 Jan;53(1):58-709158284
Cites: Eur Respir J. 1997 Jun;10(6):1380-919192947
Cites: Eur Respir J. 1997 Nov;10(11):2495-5019426085
Cites: Eur Respir J. 1998 Aug;12(2):315-359727780
Cites: Am J Respir Crit Care Med. 2001 Apr;163(5):1256-7611316667

PubMed ID: 17551598 View in PubMed

Airway hyperresponsiveness, elevation of serum-specific IgE and activation of T cells following allergen exposure in sensitized Brown-Norway rats.

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Language: English

Publication Type: Article

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Animals
Bronchial Hyperreactivity - immunology
Bronchial Provocation Tests
Bronchoalveolar Lavage Fluid - immunology
Female
Immunoglobulin E - blood
Lymphocyte Activation - immunology
Ovalbumin - immunology
Rats
Rats, Inbred BN
Research Support, Non-U.S. Gov't
T-Lymphocyte Subsets - immunology

Abstract: T lymphocytes may play a regulatory role in the development of allergic airway hyperresponsiveness (AHR). We have studied the relationship between airway responsiveness and a number of immunological changes in Brown-Norway rats sensitized intraperitoneally and repeatedly exposed to ovalbumin (OVA) aerosol. Acetylcholine provocation concentration (PC)150 (the concentration of acetylcholine causing a 150% increase of base-line lung resistance) was measured and peripheral blood and bronchoalveolar lavage (BAL) cells were collected 18-24hr after the final exposure. Total and OVA-specific IgE in serum was measured by enzyme-linked immunosorbent assay (ELISA). Mononuclear cells were analysed by flow cytometry after labelling with monoclonal antibodies against CD2 (pan T-cell marker), CD4, CD8 (T-cell subsets) or CD25 (interleukin-2 receptor). There were significant differences in PC150 (P

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Airway inflammation in probiotic-treated children at 5 years.

https://arctichealth.org/en/permalink/ahliterature136906

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Source: Pediatr Allergy Immunol. 2011 Mar;22(2):249-51

Date: Mar-2011

Language: English

Publication Type: Article

Keywords: Asthma - epidemiology - immunology - prevention & control
Child, Preschool
Female
Finland - epidemiology
Humans
Hypersensitivity
Immunoglobulin E - blood
Male
Nitric Oxide - analysis
Prebiotics
Prevalence
Probiotics - administration & dosage - therapeutic use

Abstract: Early treatment of new-born high-risk children with certain probiotic strains has reduced the risk of atopic eczema. Whether probiotics reduce risk for airway inflammation in long term is not known. We aimed at studying the effect of probiotic treatment during the six first months of life on airway inflammation at age 5 yr. In a randomized double-blind allergy prevention trial between 2000 and 2007 in Helsinki, Finland, we gave a probiotic combination, plus pre-biotics, or placebo, to 1018 children during 6 months from birth. At age 5, we measured exhaled nitric oxide (FE(NO)) in a randomized sub-population of 160 children. Allergic diseases and IgE-sensitization were assessed in all infants. FE(NO) did not differ between probiotic and placebo groups, median (interquartile range, IQR) 5.45 (4.3-7.3) vs. 5.70 (3.9-6.8) ppb, p = 0.22. FE(NO) was elevated among those suffering from asthma during the first 5 yr than in healthy non-sensitized children (p = 0.009). FE(NO) correlated positively with serum total and allergen-specific IgE concentrations. Early intervention with probiotics and pre-biotics does not affect airway inflammation later in childhood.

PubMed ID: 21332798 View in PubMed

Airway responses in Brown Norway rats following inhalation sensitization and challenge with trimellitic anhydride.

https://arctichealth.org/en/permalink/ahliterature80614

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Source: Toxicol Sci. 2006 Dec;94(2):322-9

Date: Dec-2006

Language: English

Publication Type: Article

Keywords: Administration, Inhalation
Airway Resistance - drug effects - physiology
Allergens - immunology - toxicity
Animals
Antibodies, Anti-Idiotypic - blood
Bronchi - drug effects - pathology
Bronchial Hyperreactivity - chemically induced - immunology - pathology
Bronchial Provocation Tests
Female
Immunoglobulin E - blood - immunology
Inhalation Exposure
Phthalic Anhydrides - immunology - toxicity
Plethysmography, Whole Body
Rats
Rats, Inbred BN
Respiratory Hypersensitivity - chemically induced - immunology - pathology
Specific Pathogen-Free Organisms

Abstract: Trimellitic anhydride (TMA) is a cause of asthma in man. Dose-dependent TMA-specific IgE, histopathology, and airway responses after sensitization by inhalation were examined in the Brown Norway rat. Rats were exposed to 0.04, 0.4, 4, or 40 mg/m3 TMA aerosol for 10 min, once a week, over 10 weeks. All lower exposures were, subsequently, rechallenged to 40 mg/m3 TMA aerosol. All rats received a sham exposure 1 week prior to the first TMA exposure. Following the sham exposure and weekly after each TMA exposure, TMA-specific IgE and both early-phase airway response (EAR) and late-phase airway response (LAR) were measured using enhanced pause (Penh). All rats sensitized by 40 mg/m3 TMA developed specific IgE, EAR, and LAR to one or more of the challenges to 40 mg/m3 TMA. TMA of 4 mg/m3 induced a much lower, but stable, specific IgE response. EAR and LAR were observed only after a 40 mg/m3 TMA rechallenge in this group, but it was much larger than that observed in the 40 mg/m3 TMA-sensitized and challenged group. Exposure-dependent histopathological changes noted included eosinophilic granulomatous interstitial pneumonia, perivascular eosinophil infiltrates, bronchial-associated lymphoid tissue hyperplasia, and peribronchiolar plasma cell infiltrates.

PubMed ID: 16982671 View in PubMed