children and their families establishing correlations with scores of disease severity.

Methods: It was carried out an observational study of the correlations between clinical indicators of severity and a questionnaire on quality of life: IDQOL. The study also included scoring of eczema severity – ISAAC. One hundred seventeen children with AD, fulfilling established diagnostic criteria, and 396 children with no dermatologic diseases were investigated for the effect of eczema on quality of life. Pearson’s correlation was used for the correlation analysis and the comparison between the groups was carried out using the Mann-Whitney test.

Results: Data analysis demonstrated significant differences between the scores for the 2 groups. The mean score in the eczema group was 9.2 (range 1–19) for IDQOL. The highest scoring questions for IDQOL referred to itching and scratching, mood changes and problems caused by treatment. For the ISAAC, the highest impact domains were treatment-related expenditure and sleep disturbance affecting family members.

Conclusions: AD has a negative impact on the quality of life of pediatric patients and their families. The individuals dealing with AD and their families need more than just the physical treatment of symptoms. Educational and psychological support for patients and their families in addition to medical treatment of AD may improve their long-term physical outcomes.

342 Epidemiology of Atopic Dermatitis in the Allergy Service of a Third Level Medical Center
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Background: The creation of an Allergy service was required because of the high frequency of allergic diseases among paediatric population in the general consultation of a third level medical centre.

Objective: The purpose of this study is to report the cases of Atopic Dermatitis (AD) in the Allergy service from a Third level medical centre since its creation in July 2005.

Methods: This is a descriptive, retrospective, transversal study from July 2005 to February 2011. Selected medical records of patients, some records supplied by the Dermatology service, applied for diagnostic criteria for an allergy disease. The EAACI/AAAI/PRACTALL/ 2006 guide was used to make diagnosis of AD. Patients were classified by age and sex and find out how many skin prick test were made in such patients, and how many patients began immunotherapy.

Results: Thirteen thousand seven hundred thirty seven consultations were attended in the Allergy service during the time period mentioned above. Two thousand three hundred thirty seven medical records of patients were selected, 1608 patients applied for a specific diagnosis for an allergy diseases as follows:

- Asthma 411; atopic conjunctivitis 58; atopic dermatitis 180; allergic rhinitis 869; and urticaria 90.869 patients completed criteria for allergic rhinitis.
- From 180 patients with diagnosis of AD, 111 (61.6%) patients were female, 69 (38.4%) patients were male. Ninety six (53.3%) patients were found to be in the range of 0 to 9 years. The majority of atopic dermatitis patients were females in the range of 0 to 14 years, with 82 (45.5%) patients.
- There was an increase of atopic dermatitis cases in females in the range of 30 years compared with males (F 10/ M 3). In 111 patients with DA skin prick test were made, only in 76 (42%) patients were positive and began treatment with immunotherapy.

Conclusions: In this study, AD represents the third cause of allergy disease in frequency among children. AD requires interdisciplinary management because of dermatological and allergological aspects for treatment, including immunotherapy. Education of parents and patients is also an important task in the treatment of AD. The results of this study are helpful to improve specialized medical attention in paediatric patients and adults with AD.

343 Gene-environment Interactions on the Development of Atopic Dermatitis in Preschool Children: Mold is the Main Environmental Factor
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Background: Genetic factor and environmental exposure are recognized risk factors for atopic dermatitis (AD) in children. It is known that fungus is the representative environmental factor of AD. However, the relative and the overall contributions of fungal exposure remain unexplored.

Methods: During July to August 2010 population-based cross-sectional survey, we investigate 986 preschool children from 16 kindergartens of Seoul and Gyeonggido province in Korea using a modified International Study of Asthma and Allergies in Childhood (ISAAC) questionnaire. We investigated 5 mold exposure items (dampness stain, dampness damage, visible mold, mold odor, house repair) in this survey. Multivariate regression analysis was applied to determine impact of mold exposure as risk factor for AD.

Results: The prevalence of AD was as follows: lifetime symptoms, 28.0%; symptoms in the past 12 months, 28.7%; lifetime diagnosis by questionnaire, 35.1%; treatment in the past 12 months, 16.6%; current AD (which was defined as lifetime diagnosis by questionnaire together with symptoms in the past 12 months), 21.5%; and diagnosis by doctor’s examination on the spot, 14.6%. A parental history of AD and mold exposure and environmental factors were independent risk factors for AD in preschool children. The co-existence of a parental history of AD and mold exposure together was synergistically related to AD prevalence. When children with a parental history of AD were exposed to mold (ex. mold odor), the risk for AD prevalence increased up to 7 times. (OR 6.956, 95% CI, 2.599-18.615)

Conclusions: This investigation provides a high prevalence of AD and a close relationship with mold. High prevalence of AD was detected by the combined effect parental history of AD and mold exposure at infancy. These findings suggest that early avoidance from mold exposure is important to prevent the development of AD especially in the susceptible children.

344 Fcγ-mediated Immune Responses Modulate the Exacerbation of Clinical Symptoms in Atopic Dermatitis of NC/TND Mice
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Background: Although elevated specific IgG and IgE are observed in sera of patients with atopic dermatitis (AD), their involvement in the pathogenesis of AD remains to be determined. In this study, we investigated the contribution of the immunoglobulin in AD by using Fc receptor common γ-chain (Fcγr)-deficient NC/Tnd mice.

Methods: NC/Tnd mice spontaneously develop the AD skin lesion when they are raised in air-unregulated specific pathogen-free conditions. We established Fcγr - NC/Tnd mice; those mice lacked Fcγ-mediated immune responses initiated by specific IgG and IgE. The clinical skin severity score and scratching behavior were evaluated in Fcγr-deficient mice and wild-type (WT) littermates. To examine histological features and distribution of mast cells, tissue sections of the lesional skin were stained with hematoxylin-eosin and toluidine blue, respectively. With regard to inflammatory cytokine production, the mRNA expression was detected in the dorsal skin and the axillary lymph node by real-time RT-PCR.
Results: Although the absence of FcRγ did not affect production of the immunoglobulin, the clinical skin severity scores were lower in FcRγ−/− NC/Tnd mice by half than in conventional WT mice. On the other hand, there were no differences in both scratching behavior elicited by dermatitis and Th1/Th2 cytokine production between 2 groups of mice. In the skin lesion of FcRγ null mice, mild epidermal hyperplasia and immune cell infiltration were observed. Particularly, mast cell numbers and their degranulation were significantly decreased in the skin of FcRγ-deficient mice.

Conclusions: FcRγ was not critical to the onset of AD, because FcRγ-deficient mice exhibited moderate dermatitis and scratching behavior comparable to WT. On the other hand, although scratching behavior induced the mechanical destruction of skin barriers and mast cell activation, the absence of FcRγ markedly attenuated the skin severity, immune cell recruitment including lymphocytes, and mast cell degranulation. These results indicated that the FcRγ-mediated immune response by specific IgG and IgE regulate the exacerbation of clinical symptoms in AD.

AUTOIMMUNITY

345 Autoimmune Diseases and Risk of Stroke
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Background: To determine the frequency of patients (pts) with autoimmune diseases who developed stroke and to analyse the associated risk factors.

Methods: We made a retrospective analysis of 251 pts with stroke, hospitalized during 1 year period at the Department for Urgent Neurology. Of them, we selected 7 pts with a history of autoimmune diseases.

Results: Three patients had systemic lupus erythematosus (SLE), 2 pts had M. Behcet. one patient was diagnosed with Sjogren’s and one patient had Vasculitis allergica leucocytoclastica. All pts were females, except one male pt with M. Behcet. The average age was 49 ± 11 years. Two patients with massive ischemic stroke had a lethal outcome. Hypertension was found as an independent risk factor for stroke in all pts (P < 0.01). Other risk factors included chronic renal failure, antiphospholipid antibodies, hypercoagulable state and symptomatic seizures.

Conclusions: The incidence of autoimmune diseases in patients with stroke was 2.7% in our material. Hypertension was an independent risk factor for subsequent stroke.

346 Clinical Effects of Tocilizumab, a Humanized Anti-interleukin-6 Receptor Antibody, on Patients with Autoimmune and Allergic Diseases
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Background: A humanized anti-interleukin-6 receptor, tocilizumab, has been approved as a biological drug for the treatment of rheumatoid arthritis, systemic juvenile idiopathic arthritis and Castleman’s disease. Since dysregulation of IL-6 production also plays a pathologic role in various autoimmune and allergic diseases, we tested whether tocilizumab might have beneficial effect on refractory autoimmune or allergic diseases to conventional treatment regimens.

Methods: After informed consent by patients and approval by the Ethics Committee of Osaka University Hospital were obtained, patients were treated with tocilizumab at 8 mg/kg every 4 weeks.

Results: The diseases for which off-label use of tocilizumab was performed included amyloid A amyloidosis, relapsing polychondritis, systemic sclerosis, HLA-B27 positive spondyloarthritids such as reactive arthritis and psoriatic arthritis, polyarthritis rheumatica and polymyositis. After 3 injections of tocilizumab amyloid fibril deposits in the colon disappeared in a patient with gastrointestinal AA amyloidosis, who was resistant to anti-TNF drugs and disease-modifying antirheumatic drugs. In 2 patients with refractory relapsing polychondritis, the continuous tocilizumab treatment for more than 3 years could ameliorate clinical symptoms related to upper and lower airways and stabilize the disease activity. The skin sclerosis of 2 patients with systemic sclerosis became softened with reductions of 52 and 23% in the modified Rodan total skin score by the tocilizumab treatment. Two administrations of tocilizumab led to the disappearance of joint swelling, pain and complete resolution of symptoms in a patient with refractory reactive arthritis to several therapeutic regimens for 4 years, whereas 2 patients with severe psoriatic arthritis did hardly respond to tocilizumab. In a patient with polyarthritis rheumatica, the tocilizumab treatment caused a reduction of the disease activity score (PMS-AS) from 22.14 to 0.74, indicating remission. Creatine phosphokinase normalized by 2 patients with polymyositis who had been resistant to corticosteroids and immunosuppressive drugs, in association with the disappearance of the high intensity zones in the thigh muscles on MR images.

Conclusions: These clinical effects of tocilizumab suggest that it may be an optional treatment for refractory autoimmune or allergic diseases although further clinical trails will be essential.

347 Association between Autoimmune Reactions, Herpes Infection and Severity of Atopic Dermatitis in Children
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Background: Atopic dermatitis (AD) is a chronic skin disease predominantly with the beginning in childhood. One hundred autoantigens and more are capable of binding with autoantibodies in AD patients, including autoantigens with common epitopes of EBV. Aim of study was to reveal IgE- and IgG-autoreactivity to some tissue proteins and IgG-ads to some herpes viruses and to compare the received dates with the severity of AD.

Methods: In the sera of 157 children with AD (from 1 to 17 years old) the levels of IgG- and IgE-ads to keratin, collagen III and VI, elastin, myosin and basic myelin protein were determined in adapted ELISA. The levels of IgG-ads to HSV, CMV and EBV were determined using commercial kit of ELISA. The level of total IgE and IgE-antibodies to allergens were detected using an autoanalyzer.

Results: In all age groups of patients (with light AD, middle AD and severe AD) elevated levels of total IgE were revealed, especially in children with severe AD (Mean = 360 KUL; 80 – 1160); P < 0.05. An increased contents of IgE-ads to keratin (Mean = 2.71 ME/mL (1.4–13.69); P < 0.05) and elastin (Mean = 2.69 ME/mL (1.4–2.78); P < 0.05) and IgG-ads to keratin (Mean = 296.21 μg/mL (127.88–342.01); P < 0.05) were revealed in children with severe AD in comparison with healthy children. Whereas in children with mild AD the levels of these antibodies were not significantly increased (P > 0.05), but were being increased in proportion to a severity of AD. We revealed a correlation between the levels of total IgE and the levels of IgE-ads