

# European Paediatric Allergy and Clinical Immunology Working Group—WGPACI

## Abstracts for Oral Presentations

**240** IgE REGULATION BY T CELL DERIVED FACTORS.  
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ConA and Histamine activated T cells and their crude sups  
were assayed for suppressive activity on IgE producing  
U-266 cell line. Detectable and comparable degree of sup-  
pression was obtained using either the co-culture or the  
supernatant protocols. Separation of the effector popula-  
tion into T4+ and T8+ subsets showed the most effective  
cells being in the T8+ fraction. Control experiments demon-  
strated that the IgE down regulation was select since no  
impairment of a non-immunoglobulin protein such as beta2  
microglobulin occurred in the presence of T cell or T cell  
derived factors. In addition, a number of HTLV I transfor-  
med T cell lines were explored for capacity of producing  
factors able to suppress IgE synthesis in the U-266 cell  
line and 4 out of 25 cell lines tested could be shown to  
do this in a constitutive manner. Kinetic studies suggest  
the inhibition occurring at a transcriptional level.  
The data indicate the T cell-myceloma system as an interes-  
ting model to better define regulation of IgE in Humans.

**241** A PROSPECTIVE STUDY ON HYPOSENSITIZATION WITH DERMATO-  
PHAGOIDES PTERONYSSINUS (D.P.T.) EXTRACTS PREPARED FROM  
WHOLE MITE CULTURE AND MITE BODIES.

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Immunotherapy with inhalant allergen extracts in allergic asthma is still under debate. In order to study its immunological efficacy, 24 asthmatic children sensitive to D.pt. (skin test, specific serum IgE, bronchial provocation test) were given immunotherapy using partially purified and standardized extracts from the whole mite culture (WC, N=12) or mite bodies (MB, N=12) in a double blind way. Both extracts were characterized by their allergen content and concentrations of the major allergens IP 42 and IP X. The allergen dose during immunotherapy was increased up to each patient's maximum tolerated dose. Before therapy as well as after 6 and 12 months all patients were evaluated by skin titration, bronchial provocation tests, histamine release from washed leukocytes and specific serum IgE and IgG antibodies. Allergen specific bronchial sensitivity was expressed as the allergen concentration necessary for a decrease in FEV<sub>1</sub> of 20% (PD<sub>20</sub>), leukocyte sensitivity as the allergen concentration necessary for 30% histamine release (HR<sub>30</sub>). The results showed a significant decrease of bronchial sensitivity (p < 0.01) and leukocyte sensitivity (p < 0.01) to D.pt. after 6 and 12 months as well as an increase of specific serum IgG in both, the WC and the MB group. Skin reactivity to D.pt. tended to decrease in both groups. We conclude from our data, that after 1 year of immunotherapy extracts from both, WC and MB are effective in inducing immunologic changes and decreasing bronchial sensitivity in D.pt. allergic asthmatic children.

**242** OLIGOANTIGENIC DIET TREATMENT IN CHILDREN WITH  
EPILEPSY AND MIGRAINE.  
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London.

Of 53 children with epilepsy, selected largely because of associated symptoms and treated with an oligoantigenic diet, 29 ceased fitting completely and another 7 had fewer attacks. Double blind placebo controlled reintroduction of a provoking food in 16 provoked symptoms in 15, which included fits in 8. Patients with most types of fits benefited, including 14 of 17 with generalised epilepsy, 18 of 21 with partial epilepsy, and all 11 with petit mal. None of the 6 with infantile spasms responded, but 4 patients with minor motor epilepsy did. Because of the selection method, most of the patients had headaches, behaviour disorder and/or abdominal symptoms; all responders had one or more of these. 43 foods caused symptoms and 38 provoked fits; most children reacted to several.

**243** OESOPHAGEAL FUNCTION IN CHILDHOOD ASTHMA  
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Aim: This study aimed at revealing the prevalence of oesophageal dys-  
function (OD) in childhood asthma and healthy controls, its relation  
to different types of asthma, to medication and to symptoms of OD.  
Methods: Fifty-five subjects, 8 to 19 years of age, with moderate or  
severe bronchial asthma, and 28 healthy controls, 11 to 16 years of  
age, were interviewed about symptoms and investigated with oesophageal  
manometry combined with pH reflux tests, acid perfusion test (APT) and  
acid clearing test.  
Results: OD was found in 33 of 55 subjects (60%) with asthma and in  
4 of 28 healthy controls (14%, p<0.01). Ten of 18 subjects (56%) with  
nocturnal or morning asthma at least 100 days last year had a positive  
APT as compared to 16% in those with less severe asthma (p<0.01).  
OD was as frequent in allergic as in non-allergic asthma. Theophylline  
or beta<sub>2</sub>-stimulants were not more often used by asthmatics with OD  
than by those with normal oesophageal function. In the asthmatic sub-  
jects OD-symptoms (acid regurgitation, heartburn, dysphagia) were  
significantly related to OD (p<0.001).  
Conclusion: OD was common in moderate and severe childhood asthma and  
all patients with OD-symptoms had OD. A positive APT was common in  
youngsters with frequent nocturnal or morning asthma. This finding  
supports our hypothesis that nocturnal asthma may be reflexly provo-  
ked, by gastro-oesophageal reflux, in patients with an acid hyper-  
sensitive oesophagus.

## WGPACI—Abstracts for Poster Presentations

**244** INTRAVENOUS GAMMAGLOBULIN THERAPY IN IMMUNODEFICIENT CHILDREN.  
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We have treated 23 children aged 6-15 years affected with agammaglobulinemia or severe hypogammaglobulinemia with IgG serum levels lower than 100 mg% with IV gammaglobulin (Sandoglobin) at the dose of 150-300 mg/kg/3 weeks for two years. The children suffered from severe and recurrent bacterial infections, mainly of the respiratory tract, leading to chronic tissue damage. They had been previously treated with IM gammaglobulins (0,8 ml/kg/3 weeks), but their serum IgG values were never higher than 75 mg%. The results are summarized in the following Table, in which we have compared the data of the follow-up after two years of treatment with IV gammaglobulin and of the follow-up after a one-year course of IM gammaglobulins.

Symptoms (per year/patient)	IM gammaglobulins	IV
No. of infections	3.2	0.6
No. of respiratory infections	2.4	0.3
No. of days in bed/hospital	24	4.5
No. of days with infections or fever	32	5.6
No. of days with antibiotics	47	8.5
Serum IgG levels (mg%)	75	520

Minor adverse reactions (chills, fever, abdominal pain) were observed only in some children and in the first months of therapy. These data demonstrate that IV administered serum immune globulin therapy dramatically reduced infectious diseases in children with immunodeficiencies.

**245** SUBCLASS TYPING OF SPECIFIC IGG ANTIBODIES  
IN ALLERGEN IMMUNOTHERAPY  
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Allergen immunotherapy results in the production of allergen specific antibodies. We investigated whether antibody response in one or more of the four IgG subclasses may be correlated to the clinical improvement.

10 patients suffering from systemic reactions to bee stings were hyposensitized over 3 years. All patients tolerated a bee sting challenge one, two, and 3 years after the start of treatment, and after bee venom immunotherapy was discontinued. Almost all of the IgG antibodies were restricted to IgG<sub>1</sub> and IgG<sub>4</sub> subclasses. Although both rose during treatment, IgG<sub>4</sub> were maintained at high levels when immunotherapy was discontinued.

In conclusion, in serum from normal individuals IgG is the predominant main protective antibody. IgG<sub>4</sub> subclass specific antibodies appear as a result of a repeat antigenic stimulation as in allergen immunotherapy. Our findings of persisting clinical protection and IgG<sub>4</sub> predominant immune response support the protective role of IgG<sub>4</sub> in allergic individuals undergoing a venom hyposensitization treatment.