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Next Annual Meeting: November 11–15, 1995, Dallas, Texas

Abstracts: Concurrent Sessions

- 41** ALLERGY TO JUMPER ANT (MYRMECIA PILOSULA) STINGS IN SOUTH-EASTERN AUSTRALIA. J.M. Weiner¹ MD, B.A. Baldo² PhD, G.R. Donovan² PhD, S.K. Sutherland¹ MD. Melbourne¹ and Sydney², AUSTRALIA.

The Jumper Ant (JA) is an aggressive medium-sized ant found in the sandy coastal areas and highlands of South-Eastern Australia (Tasmania, Victoria and South Australia). It stings readily and repeatedly when disturbed. We have obtained clinical details from 224 patients (454 separate sting-episodes). Clinical data: 224 patients (121M, 103F); age range 1-75 yrs (mean 36 yrs); number of sting-episodes per patient - 1 (108), 2 (32), 3 (24), 4 or more (22), not specified (38); site of stings - leg (202), arm (188), trunk (22), H&N (19), not specified (63); number of stings per episode - 1 (279), 2 (40), >2 (57), not specified (78); reactions to sting - LIFE-THREATENING (239), other systemic (71), large local (27), local (57), not specified (60); onset of reaction after sting - 1-5 mins (253), 6-10 mins (28), 11-20 mins (23), >20 mins (14), not specified (136). Of 137 re-stings in patients with previous systemic reactions, 117 (85%) developed a similar or worse reaction. Previous or concurrent immunotherapy with whole body extract (now discontinued) did not appear to be protective. We have previously reported immunological data showing four major IgE-binding bands in venom, and two polypeptides (Myr p 1 and Myr p 2) have been cloned and sequenced. There is apparent cross-reactivity with the important Life-threatening anaphylaxis to JA stings is a major cause of venom-related morbidity in South-Eastern Australia.

- 43** COMPOSITION OF *Per a* 1 ALLERGEN IN DUST SAMPLES AND SPT REACTIVITIES IN SAUDI ARABIA. A.R. Al-Frayh, MD; S.M. Hasnain, PhD; M.O. Gad-el-Rab, MD; C. Schou, PhD; K. Al-Mobalrek, MD; and S.T. Al-Sedairy, PhD. Riyadh, Saudi Arabia and Horsholm, Denmark.

As part of a nationwide study to analyse the antigenic composition of house dust in relation to increasing problem of allergic diseases particularly bronchial asthma in children, 318 housedust samples were collected from three regions (1000 km apart) of Saudi Arabia and analysed specifically for *Per a* 1 antigen immunochemically by ELISA using ALK (Denmark) reagents. The data revealed the prevalence of *Per a* 1 in all regions with 8-20% samples having more than 2000 ng/g of dust. Though there were minor variations in the frequency of *Per a* 1 antigen ranging from 8% in the Southern to 11% in the Western regions, samples from the Western region contained up to 48.4×10^3 ng/g compared to a maximum of 10.5×10^3 ng/g in Southern region. However, in the central province >20% samples contained *Per a* 1 antigen with composition as high as 80×10^3 ng/g. A total of 335 school children suffering from bronchial asthma in the three regions were skin prick tested with cockroach extract (*Periplaneta americana*, w/v 1:10, Meridian Biomedicals, USA). The results showed positive prick test reactions in 34.8% (n=66), 23% (n=113) and 18.6% (n=156) in the Southern, Central and Western regions respectively. Though more SPT are underway, the data suggest general impact of *Per a* 1 antigen sensitization in all group of patients with comparatively higher frequency in the Southern region.

- 42** EFFECT OF TEMPERATURE AND BACTERIAL CONTAMINATION ON PROTEIN YIELD DURING POLLEN EXTRACTION
PA SCHIKADE MD, RW HARRIS PhD, R LeDOUX BS, LV LARSEN MD, PhD. Aurora, Colorado

A comparison was made of the effects of bacterial contamination on protein yield during pollen extraction.

Ragweed (RW), Russian Thistle (RT), Timothy (T) and Birch (B) pollens were extracted at a 1:10 conc. with constant mixing for 24 hours. Extractions were performed in either deionized water (dH₂O) or a solution of proteinase inhibitors (PI) containing phenanthroline, aprotinin, pepstatin, and leupeptin. Extractions were performed at both 4°C and 25°C with aliquots taken at 1, 6, 12 and 24 hrs. The aliquots were assayed for protein by Bio-Rad technique and bacterial counts in colony forming units (CFU) were determined.

Bacterial counts were higher at 25°C than 4°C in dH₂O by a factor of 10^2 to 10^6 cfu/gm pollen. Bacterial counts at 4°C did not increase over time and were similar to those at 25°C with PI. Protein yields were highest for extractions done at 25°C with PI over 24 hrs for all pollens. Extraction at 4°C in dH₂O gave 2-3 fold higher protein yields than at 25°C in dH₂O at 24 hrs, with the exception of RW. Extractions beyond 6-12 hrs at 25°C in dH₂O revealed loss of protein which was not seen at 4°C, with the exception of RW.

Protein yields for extractions at 25°C in dH₂O for 24 hrs were inversely related to bacterial counts.

These findings suggest that extraction at 25°C for 24 hrs permits growth of bacteria present in the pollen and that proteinases, presumably from these bacteria, adversely effects protein yields for 3 of the 4 pollens studied. Extraction at 4°C can inhibit bacterial growth and give higher protein yield.

- 44** NUTRITIONAL EVALUATION IN INFANTS FED HUMAN MILK, WHEY-CASEIN AND CASEIN PROTEIN HYDROLISATE FORMULAS AT THREE AND FIVE MONTHS OF LIFE. M.A. Muraro, S. Ballarin, V. Carnielli, R. Semenzato, N. Dussini. Padova, Italy.

Aim of the study was to evaluate nutritional status in infants with family history of atopy fed human milk (HM) (n=22) whey-casein hydrolysate (Aptamil HA 50:50) (n=20) or casein hydrolysate (Pregestimil) (n=10). Anthropometric and skinfold measurements were made at birth, 3 and 5 mos. of age. Triceps, biceps, subscapular and suprailliac skinfold thickness determination were made three times at each site and the arithmetic mean recorded. The serial sum of the four skinfold means were used as index of adipose tissue growth. Samples of preprandial peripheral venous blood were obtained at 3 and 5 mos for determination of serum concentration of electrolytes, hemoglobin, total protein, BUN, creatinine, glucose, iron, total cholesterol. Determination of plasma aminoacids (aa) was made at 3 mos. In the formulas' groups milk intake during the study period was recorded by the mothers. Results. Anthropometric data of the three groups were similar with respect to gestational age and birth weight. Milk intake was similar in the formulas groups but protein intake was greater for the Pregestimil group (p<0.005 vs HA) and lipid intake greater for HA (p<0.001 vs Pregestimil). Adipose tissue growth was significantly less for the Pregestimil group (51.78 ± 4.68 vs HA 60.75 ± 8.54 vs HM 59.91 ± 7.12 p<0.01) at 3 and 5 mos. Total protein concentration was slightly lower in the HA group at 3 but not at 5 mos, BUN was significantly increased in the formulas' groups at 3 and 5 mos (p<0.001 vs HM). Plasma threonine concentration was greater in the formulas' groups (p<0.01 vs HM), phenylalanine concentration was higher in the Pregestimil group (p<0.001 vs HM) with normal value of tyrosine. However plasma aa concentrations at 3 mos were within the range reported for healthy term infants. Cholesterol was increased in the HM group (p<0.001 vs formulas). Other parameters were similar for the three groups. Differences in fat deposition and in the values of BUN and plasma aa can be related to protein and lipid content and aa composition of the protein hydrolysate formulas.