

181 ANAPHYLAXIS TO POLYETHYLENE GLYCOL (PEG) IN A MULTIVITAMIN TABLET. Yga N. Kwee, M.D., Jerry Dolovich, M.D., Hamilton, Ontario, Canada.

A well 36 year old man suffered 5 episodes of unexplained anaphylaxis over 6 yrs. The last was most severe culminating in hypotension, unconsciousness and a grand mal seizure requiring treatment in the intensive care unit.

He reported hives following the topical use of perfumes and after-shave lotions. Prior to the last severe episode he had taken a multivitamin tablet. Ingestion of the same medication one week later produced a limited urticarial rash. Subsequent ingestion of another brand of multivitamin tablet was entirely tolerated.

A sterile solution prepared from the crushed multivitamin tablet apparently responsible elicited a positive skin test in him but not in 2 healthy control subjects. A dialysed solution of the multivitamin preparation yielded a positive skin test in him but not a control subject. Non-dialysable (high MW) components of the multivitamin tablet consist of PEG 20,000 and 8,000 daltons and calcium carboxymethyl cellulose. Both PEG solutions (20,000 and 8,000 daltons) at concentrations of 1 mg/ml elicited positive skin prick tests with mean wheal: flare diameters of 11:25. The tests were negative in 6 control subjects.

The patient is allergic to PEG, a substance in many foods, pharmaceuticals and cosmetics. The previously unexplained anaphylactic reactions are likely due to PEG in foods and/or drugs and the urticarial reactions to the same substance in the after-shave lotion.

182 ALLERGY TO SEMINAL PLASMA FROM A VASECTOMIZED MALE. S.A. Friedman, M.D., J.S. Gallagher, Ph.D., Z.H. Marcus, Ph.D., I.L. Bernstein, M.D., Cincinnati, Ohio.

Immediate hypersensitivity to seminal fluid from a vasectomized man was studied in a woman who experienced anaphylaxis during the first intercourse following a hysterectomy. A vasectomy had been performed on her husband eight years previously. His seminal plasma (HuSePl) was fractionated by G-100 chromatography and 5 major fractions were utilized for direct skin testing, passive transfer tests, leukocyte histamine release, and specific IgE determinations. Hemagglutination assay of the patient's blood was negative for antisperm antibodies. An ELISA test detected the presence of IgG to fraction 4 of the HuSePl in the patient's blood. Specific reaginic activity to fraction 3 of HuSePl was found by means of direct skin testing leukocyte histamine release (29%) and positive passive transfer. Although fraction 4 of HuSePl was skin test negative, significant leukocyte histamine release (37%) to this substance was demonstrated. RAST to HuSePl and various fractionated components was negative. Since previous studies of similar patients had shown that reaginic activity was associated with fraction 2 of HuSePl, the current results suggest that allergenicity of HuSePl may be induced by different molecular species (in this case fraction 3) of HuSePl. In addition, possible contamination of HuSePl with sperm antigens was excluded by the history of vasectomy in the patient's husband. The patient is currently being desensitized to HuSePl-Fr 3.

183 PENICILLIN ALLERGY IN CHILDREN. George H. Luciuk, M.D., F. Estelle R. Simons, M.D., C.A. Gillespie, R.N., Winnipeg, Manitoba.

Nineteen children who had been skin test positive to penicillin 3 to 5 years previously had skin tests repeated by the prick and intradermal routes using penicilloyl-polylysine (Pre-Pen), fresh and shelf-aged penicillin G solution and benzyl penicillin and penicilloate mixtures. Five patients (26%) still had positive tests. All these patients also demonstrated positive tests to cephalosporin preparations.

Forty-six children, newly referred with suspected penicillin allergy, were skin tested as above. Two children (4.3%) had one or more positive tests.

No patients had positive delayed skin tests to any reagent. All negative skin tests were confirmed by challenging the patient with an oral dose of penicillin. After challenge, 3 patients had mild accelerated reactions. Lymphocyte stimulation tests to penicillins, and specific IgE and IgG RAST to penicilloyl-polylysine are being performed in these patients.

We conclude: 1. approximately 75% of children who had positive skin tests to penicillin lost their sensitivity 3 to 5 years after the initial tests. 2. the incidence of positive skin tests to penicillin in newly referred children was 4.3%. 3. all retested patients with positive skin tests to Pre-Pen also demonstrated positive tests to cephalosporins 4. no delayed reactions were observed 24 hours after testing 5. skin tests as performed above may not detect all patients at risk for accelerated reactions from penicillin.

184 DERMOGRAPHIA CAUSED BY IgE MEDIATED HYPERSENSITIVITY TO PENICILLIN. Joseph A. Smith, M.D., Arthur N. Fokakis, M.D., Lyndon E. Mansfield, M.D., and Harold S. Nelson, M.D., Biloxi, MS, El Paso, TX, Denver, CO.

A 14 y.o. white male developed dermatographia (D) while taking oral Penicillin (P). D disappeared when P therapy stopped. Off P, the subject's D response was negative up to 400g pressure. Rechallenged with P, a positive D response occurred at 50g. Skin testing to P.P.L., M.D.M., and Pen G was negative. Serum was obtained and a portion heated. Heated and unheated serum was passively transferred (P/K) to a non-allergic volunteer. At 48 hours, these P/K sites were not reactive to 400g pressure. The volunteer ingested 500mg of Penicillin. The unheated sites now had positive D response at 50g. Heated serum sites remained unresponsive. PPL, Pen G, and MDM testing of P/K sites was negative. As far as we know, this is the first case in which an allergen has been proven to cause D. It is further suggested that allergen-IgE reactions can lower the threshold of mast cell reactivity to physical stimuli and since PPL, MDM, Pen G testing was negative, other P moieties not detected with these materials may be allergens.