**Abstracts**

**AB206**

**665** Rapid Onset Anaphylaxis to Red Meat in Three Siblings from Uganda

Andrea Fong, MD, FRCPC1, Alexander J. Schuyler, BS, BA2, Thomas A. E. Platts-Mills, MD, PhD, FAAAAI, FRSA3, Allan Becker, MD, FRCPC1, 1University of Manitoba, Winnipeg, MB, Canada, 2Department of Medicine, Division of Asthma, Allergy and Immunology, University of Virginia, Charlottesville, VA, 3Division of Asthma, Allergy and Immunology, University of Virginia Health System, Charlottesville, VA.

**RATIONALE:** IgE to galactose-1,3-galactose (“alpha-gal”) is associated with delayed onset anaphylaxis and has been measured in sub-Saharan Africa, but without reports of anaphylaxis. We present three siblings with rapid onset anaphylaxis to red meat while in a Uganda refugee camp.

**METHODS:** Commercial extracts, raw and cooked meats were used for SPT. Allergen specific IgE (sIgE) was measured to foods, alpha-gal, cat, Fel d 1, Fel d 2 and parasites. Alpha-gal was then absorbed with beef thyroglobulin conjugated to sepharose beads.

**RESULTS:** The siblings developed anaphylaxis within an hour of consuming goat, beef or pork. SPT for all siblings was positive to commercial beef, pork; raw beef, goat; cooked beef, and cat. Sibling 3 SPT was also positive to cooked goat. sIgE for all siblings was positive to alpha-gal (5.62; 8.38; 6.70 KU/L), beef (4.82; 6.72; 7.00 KU/L), pork (4.60; 5.86; 6.46 KU/L), cow’s milk (3.02; 4.38; 5.26 KU/L), cat (1.62; 2.58; 3.92 KU/L) and echinococcus (2.02; 3.26; 5.04 KU/L). Pork albumin, Fel d 1, Fel d 2, ascaris, and anisakis sIgE were negative. Goat sIgE was not available. After depletion of alpha-gal from the sera, beef, pork, cow’s milk, cat and echinococcus sIgE were negative. The siblings consume chicken, fish and cow’s milk. There is no clear history of tick bites.

**CONCLUSIONS:** To the best of our knowledge, these are the first reported cases of red meat anaphylaxis from Africa. The early onset of their symptoms may indicate another spectrum of red meat allergy with IgE to alpha-gal in a specific population.

**666** Recurrent Anaphylaxis Due to Delayed Allergy to Mammalian Meat in a Patient with Mastocytosis

Sean P. Brady, MD, Deborah Novack, MD, PhD, Anthony Kulczycki, Jr, MD, FAAAAI; Washington University School of Medicine, St. Louis, MO.

**RATIONALE:** Mastocytosis and delayed allergy to mammalian meat are under-recognized and potentially life-threatening conditions. We describe a patient with mastocytosis and delayed allergy to mammalian meat whose diagnoses came to light after several episodes of severe anaphylaxis.

**METHODS:** Measurement of serum tryptase and IgE to galactose-alpha-1,3-galactose (alpha-gal) were performed at Mayo Clinic, Rochester, MN. Bone Marrow biopsy was performed at Barnes-Jewish Hospital, St. Louis, MO.

**RESULTS:** A 52-year-old man presented with a several year history of recurrent syncope. Symptoms proceeding syncope included nausea, vomiting, abdominal cramping, flushing, itching and lightheadedness. Prolonged unresponsiveness, hypotension and bradycardia accompanied each event, once requiring intubation and mechanical ventilation. Cardiac work-up was unrevealing. A pacemaker was placed for presumed symptomatic sinus bradycardia. Detailed history later revealed ingestion of beef and pork several hours prior to each event, as well as exposure to tick bites. IgE to alpha-gal was 1.93 KU/L (reference range <0.35KU/L), suggesting that an allergy to alpha-gal triggered these events. Baseline serum tryptase was 30 ng/mL (reference range <11.5ng/mL) and bone marrow biopsy was diagnostic for mastocytosis. The patient was prescribed an epinephrine auto-injector, placed on cetirizine, ranitidine and montelukast, and instructed to limit exposure to ticks and mammalian meat. The patient has had no further episodes.

**CONCLUSIONS:** We believe this is one of the first cases described of life-threatening anaphylaxis secondary to delayed allergy to mammalian meat in a patient with mastocytosis. This case highlights the importance of including these rare entities in the differential diagnosis of unexplained syncope.

**667** Recurrence Rates of Anaphylaxis in Children

Andrew O’Keeffe, MD1,2, Yvan St. Pierre, MSc3, Christopher Mill, BSc2, Jennifer Mill2, Alizée Dery2, Yuka Asai, MD2, Harley Eiseman, MD1, Sebastien La Vieille, MD2, Reza Alizadehfar, MD2, Lawrence Joseph, PhD3, Judy Morris, MD, MSc2, Ann Clarke, MD, MSc2, Moshe Ben-Shoshan, MD, MSc2, 1Discipline of Pediatrics, Faculty of Medicine, Memorial University, St. John’s, NF, Canada, 2Division of Pediatric Allergy and Clinical Immunology, Montreal Children’s Hospital, Canada, 3Division of Clinical Epidemiology, Department of Medicine, McGill University Health Center, QC, Canada, 4School of Population and Public Health, University of British Columbia, Vancouver, BC, 5Division of Pediatric Allergy and Clinical Immunology, Department of Pediatrics, McGill University Health Centre, Montreal, QC, Canada, 6Division of Dermatology, Department of Medicine, McGill University Health Centre, Montreal, QC, Canada, 7Emergency Department, Department of Pediatrics, Montreal Children’s Hospital, Montreal, QC, Canada, 8Food Directorate, Health Canada, Ottawa, ON, Canada, 9Division of Paediatric Allergy and Clinical Immunology, Department of Paediatrics, McGill University Health Center, Montreal, QC, Canada, 10Division of Clinical Epidemiology, Department of Medicine, McGill University Health Center, Montreal, QC, Canada, 11Division of Emergency Medicine, Hospital du Sacré-Cœur, Montreal, QC, Canada, 12Division of Rheumatology, Department of Medicine, University of Calgary, Calgary, AB, Canada.

**RATIONALE:** Determine recurrence rate of anaphylaxis in children.

**METHODS:** As part of the Cross-Canada Anaphylaxis Registry (C-CARE), parents of children identified prospectively at the Montreal Children’s Hospital Emergency Department and Sacré-Coeur Hospital with anaphylaxis were contacted annually after presentation and queried on subsequent allergic reactions. Cox regression analysis was conducted to determine factors associated with recurrence.

**RESULTS:** Among 266 children presenting with anaphylaxis, 96 completed follow-up questionnaires (36.1%). Respondents were younger (median age 3.6 vs. 6.5 years) and more likely to have had severe anaphylaxis at baseline (10.4% vs. 2.9%) than non-respondents. Respondents reported 42 episodes of anaphylaxis in 25 patients, with an annual incidence of recurrent anaphylaxis of 28.8%. Those with recurrent anaphylaxis had a median age of 4.2 years and most were males (57.1%). Children with recurrent anaphylaxis were less likely to have peanut as a trigger for anaphylaxis (hazard ratio 0.29, 95% CI 0.11-0.82). Among recurrent reactions, food was the principal trigger (90.5%) and most reactions were moderate in severity (73.8%). Injectable epinephrine was used outside of a healthcare facility (HCF) in 52.4% of recurrent reactions and 90% of patients were brought to a HCF. Among patients brought to a HCF, 75.0% received epinephrine during the reaction.

**CONCLUSIONS:** We report an annual incidence rate of 28.8%, higher than previously reported. Patients with anaphylaxis triggered by peanut have lower recurrence risk potentially due to higher vigilance or ease in avoiding products containing peanut. Limited sample size and low response may have affected these estimates.