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169 Likelihood of Having Self-Injectable Epinephrine in Adult and Pediatric Patients Presenting for Evaluation of Food Allergy



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RATIONALE: Food allergy is a leading cause of anaphylaxis, and underprescription of epinephrine is well documented; we were interested in comparing trends related to this in pediatric and adult populations at one academic medical center.

METHODS: Retrospective chart review of 100 pediatric and 222 adult patients seen at Children's Hospital of Pittsburgh of UPMC or UPMC for a diagnosis of food allergy June 15, 2004 through June 15, 2014. 53 adult and 26 pediatric patients were excluded. Final adult n: 169. Final pediatric n: 74. This review was IRB exempt approved.

RESULTS: 64% of adults and 58% of children seen by a physician for food allergy had self-injectable epinephrine prior to their first allergy visit. Adults referred by a PCP were significantly less likely to have epinephrine ($p=0.036$) than those seen by another physician, with a similar trend in children ($p=0.070$). 62% of adults and 86% of children previously treated with epinephrine for anaphylaxis had self-injectable epinephrine. Children ($p=0.002$) and adults ($p=0.034$) with tree nut allergy were more likely to have epinephrine than those with a different food allergy, including peanut. Peanut-allergic adults were more likely to have epinephrine ($p=0.007$). Milk-allergic children were less likely to have epinephrine ($p=0.03$), as were adults with fruit allergy ($p=0.008$). 42% of children avoiding 3 or more foods had epinephrine while 66% avoiding less than 3 foods had epinephrine ($p=0.047$), a trend not seen with adults.

CONCLUSIONS: Adult and pediatric patients presenting to an allergist for food allergy have a lower than optimal rate of having self-injectable epinephrine.

170 Recurrent Idiopathic Anaphylaxis in a Woman after Suspected Food Poisoning



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RATIONALE: Recurrent idiopathic anaphylaxis represents a vexing clinical problem associated with stress for patients and allergists. The cause is often not identified despite exhaustive testing.

METHODS: The history of a 54-year-old woman with repeated bouts of unexplained anaphylaxis is reviewed. The relationship between preceding or active infection (emphasis on GI infections) and chronic idiopathic urticaria (CIU) and anaphylaxis was explored by electronic media search (PubMed, Google) and review of reference lists of published articles. The literature on the relationship of *Campylobacter jejuni*, infection and urticaria is reviewed. Gastrointestinal infections (Giardia, Anisakis) have been better documented in such patients.

RESULTS: The patient had persistent flatulence, looser and more frequent bowel movements for months after recovery from a bout of food poisoning. A diagnosis of "post infectious irritable bowel syndrome" was made by a gastroenterologist. These symptoms were not related to her simultaneous diagnosis of CIU and idiopathic anaphylaxis. After treatment with azithromycin (positive stool culture for *Campylobacter jejuni*) she had a systemic allergic reaction. Subsequently, the diarrhea and urticaria/anaphylaxis cleared. *Campylobacter jejuni* has been reported to cause chronic urticaria, but predominantly in children. A related organism, *Helicobacter pylori*, has been associated with CIU. Anaphylaxis has not been related to *Campylobacter*, infection in the past.

CONCLUSIONS: Chronic urticaria and recurrent bouts of mild unexplained anaphylaxis were triggered by *Campylobacter jejuni* infection. The allergic and GI symptoms resolved after treatment. Gastrointestinal infections should be looked for in patients with urticaria or anaphylaxis.

171 An Interdisciplinary Approach to Perioperative Anaphylaxis: A Tertiary Pediatric Center Experience



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RATIONALE: The estimated incidence of peri-operative anaphylaxis (PA) is 1:3,500-1:20,000. Although rare, PA causes morbidity and poses significant risk of mortality (3-9%). The most common causal agents are neuromuscular blocking agents, antibiotics and latex. In the operative setting, patients are exposed to multiple intravenous, inhaled and topical agents in rapid succession. Unless the cause of PA is quickly identified necessary procedures will be delayed.

METHODS: Retrospective chart review for one year at Texas Children's Hospital included 8 patients with confirmed PA (5 cardiac, 1 dental, 1 radiology, 1 tonsillectomy). Skin prick and intradermal testing (ST) were performed with exposed agents and additional medications in collaboration with surgery teams for upcoming surgeries.

RESULTS: Most common presenting symptoms were bronchospasm, hypotension and urticaria. Positive ST were found to Vecuronium, Cefazolin, Vancomycin, Midazolam, Ketamine, Methylprednisolone, Triamcinolone, Chlorhexidine, Fentanyl and Morphine. Vancomycin and Triamcinolone were not exposures but tested prior to upcoming procedures based on collaborative plans. Of 3 patients ST positive to opioids, 2 subsequently tolerated Morphine challenge. Vecuronium, Cefazolin, Midazolam, Ketamine, Chlorhexidine and Methylprednisolone were identified as true causal agents and avoided.

CONCLUSIONS: In addition to common causal agents in PA, more unusual agents like steroids and topical agents besides latex should also be investigated. Since drugs such as Vancomycin and opioids can produce false positive ST, graded challenge may be required to validate ST when alternatives are unavailable. An interdisciplinary team approach with close collaboration between allergy, anesthesia and surgical teams is key to planning the diagnostic work-up and advancing to surgery safely and expeditiously.