Welcome to the FIT Board Review Corner, prepared by Miriam Samstein, MD, PhD, and Timothy Chow, MD, senior and junior representatives of the College’s Fellows-In-Training (FITs) to the Board of Regents. The FIT Board Review Corner is an opportunity to help hone your Board preparedness.

Review Questions

**Allergy and Immunology Review Corner:** Middleton’s Allergy Principles and Practice, 8th Edition
N. Franklin Adkinson Jr., MD, Bruce S Bochner, MD, A Wesley Burks, MD, William W Busse, MD, Stephen T Holgate, MD, DSc, FMedSci, Robert F Lemanske, Jr., MD and Robyn E O’Hehir, FRACP, PhD, FRCPath

1. Which of the following allergens is most responsible for clinical reactivity to egg in egg-allergic children?
   a. ovalbumin
   b. ovomucoid
   c. ovotransferrin
   d. ovoglobulin

2. What percentage of children with milk allergy typically tolerate extensively heated milk in baked products?
   a. 25%
   b. 50%
   c. 66%
   d. 75%

3. There is high cross-reactivity between cow’s milk proteins with milk from which of the following animals:
   a. lamb
   b. horse
   c. camel
   d. goat

4. Which of the following allergens has been identified as a major allergen in adults with pollen allergy and oral allergy symptoms to peanuts?
   a. Ara h 1
   b. Ara h 2
   c. Ara h 6
   d. Ara h 8

5. Which of the following cell types peaks 4-6 hours after the onset of a food protein-induced enterocolitis syndrome reaction?
   a. Peripheral blood eosinophils
   b. Lung eosinophils
   c. Peripheral blood neutrophils
   d. Lung mast cells

6. While of the following statements is most accurate regarding food-dependent, exercise-induced anaphylaxis (FDEIA):
   a. Symptoms occur 4-6 hours after exercise following food ingestion.
   b. This disorder is more common in males than females.
   c. In the absence of exercise, patients can typically ingest the trigger food without reaction.
   d. This disorder appears to be most prevalent in early 40s.
7. Which of the following pairs of vaccines are contraindicated in persons with history of urticarial, angioedema, asthma or anaphylaxis to egg proteins?
   a. Yellow fever and MMR
   b. Yellow fever and rabies
   c. DTaP and influenza
   d. Rabies and typhoid

8. How long does it typically take for cow’s milk and soy protein-induced proctocolitis to resolve after allergen avoidance?
   a. 3 – 6 months
   b. 6 months – 12 months
   c. 6 months – 2 years
   d. 12 months – 2 years

9. Diagnosis of eosinophilic esophagitis depends on esophageal biopsy demonstrating eosinophilic infiltration with typically more than how many eosinophils per high-power field?
   a. 10
   b. 15
   c. 20
   d. 25

10. Heiner syndrome, a rare condition resulting in food-induced pulmonary hemosiderosis is most often associated with which food?
    a. Beef
    b. Milk
    c. Egg
    d. Wheat

Answers:

1. B. Egg white is considered more allergenic than the yolk, and ovomucoid (Gal d 1) is the dominant allergen in purified egg white protein. Blinded OFCs with ovomucoid-depleted egg white demonstrated that ovomucoid was responsible for clinical reactivity in most egg-allergic children. pg 1318.

2. D. About 75% of children with milk allergy tolerate baked milk. pg 1317.

3. D. Oral challenge studies indicate that at least 90% of cow’s milk-allergic children react to goat’s milk. pg 1317

4. D. Ara h 8 is a Bet v 1 cross-reactive protein with low stability during roasting and no stability in gastric digestion. It has been identified as a major allergen in adults with pollen allergy and oral allergy symptoms to peanut. pg 1318

5. C. After an acute Food Protein-Induced Enterocolitis Syndrome (FPIES) reaction, there is a prominent increase in the number of peripheral blood neutrophils, peaking at 4-6 hours from the onset of symptoms. pg 1325
6. **C.** Food-Dependent, Exercise-Induced Anaphylaxis (FDEIA) occurs only when the patient exercises within 2 – 4 hours of ingesting food, but in the absence of exercise, the patient can ingest the food without any apparent reaction. This disorder appears to be more common in females than males, with highest prevalence in the late teens to mid-30s. pg 1329

7. **B.** According to the National Institute of Allergy and Infectious Diseases (NIAID) sponsored clinical guideline for the diagnosis and management of food allergy in the United States, yellow fever and rabies vaccines are contraindicated in persons with history of urticaria, angioedema, asthma or anaphylaxis to egg proteins. table 81-9, pg 1331

8. **C.** Cow’s milk and soy protein-induced proctocolitis generally resolve within 6 months to 2 years of allergen avoidance, though refractory cases may be seen. pg 1325

9. **B.** Diagnosis of eosinophilic esophagitis depends on esophageal biopsy demonstrating eosinophilic infiltration, typically more than 15 eosinophils per high-power field. pg 1324

10. **B.** Food-induced pulmonary hemosiderosis or Heiner syndrome, is a rare condition characterized by recurrent pneumonia associated with pulmonary infiltrates and hemorrhage, hemosiderosis, gastrointestinal blood loss, iron-deficiency anemia and failure to thrive. Heiner syndrome is most often associated with a non-IgE mediated hypersensitivity to cow’s milk, though reactions to egg, pork and buckwheat have also been reported. pg 1329