Allergen Immunotherapy Practical Quiz

Question 1
Which of the following pollens shows cross-reactivity with birch pollen?
- a. Alder
- b. Olive
- c. Ash
- d. Black walnut
- e. Elm
Correct

Question 2
Which preservative/adjuvant has the greatest potential to breakdown immunotherapy because of protease activity?
- a. Phenol
- b. Glycerin
- c. Human Serum Albumin (HSA)
- d. Aluminum Hydroxide (Alum)
- e. Buffered saline
Incorrect

Question 3
Which of the following is NOT an indication for allergen immunotherapy?
- a. Seasonal allergic rhinoconjunctivitis
- b. Allergic asthma
- c. Allergic urticaria
- d. Stinging insect hypersensitivity
- e. Perennial allergic rhinoconjunctivitis
Correct

Question 4
The major allergen content recommended for maintenance single vespid immunotherapy is:
- a. 1 ug
- b. 10 ug
- c. 50 ug
- d. 100 ug
- e. 300 ug
Correct

Question 5
Which of the following are most likely risk factors for increased frequency and/or severity of systemic reactions to allergen immunotherapy injections?
- a. Beta-blocker medications
- b. Chronic urticaria
c. Food allergy

d. Poorly controlled asthma

e. Both A and D
Correct

Question 6
Which of the following is the best recommendation regarding pre-treatment prior to allergen immunotherapy injections?

a. All allergen immunotherapy patients should be pre-treated with anti-histamine, systemic corticosteroid, and leukotriene modifier

b. Select allergen immunotherapy patients may benefit from pre-treatment with anti-histamine

c. Patients with a history of asthma should receive omalizumab while undergoing the build-up phase of allergen immunotherapy

d. Patients undergoing rush allergen immunotherapy should receive a combination of antihistamine and systemic corticosteroid.

e. Both B and D are correct
Correct

Question 7
Using a standard build-up schedule for allergen immunotherapy, what would the next concentration and dose be after 0.3 ml of the 1:100 vial?

a. 0.05 ml of 1:10

b. 0.31 ml of 1:100

c. 0.35 ml of 1:100

d. 0.40 ml of 1:100

e. 0.50 ml of 1:100
Correct

Question 8
A 26 year-old with a history of allergic rhinitis and asthma has been receiving allergen immunotherapy for 2 years (and has been on maintenance therapy for 19 months). She has had several large local reactions but no systemic reactions. Her symptoms have improved on therapy and her asthma is under excellent control. She found out last week that she is ~10 weeks pregnant. What would you recommend regarding her allergen immunotherapy injections?

a. Discontinue allergen immunotherapy

b. Reduce maintenance dose by 25-50%

c. Increased maintenance dose by 25-50%

d. Continue allergen immunotherapy with no adjustments

e. Repeat skin tests and discontinue allergen immunotherapy if negative
Correct

Question 9
Changes observed during effective immunotherapy include all except:

a. Decrease in CD4+CD25+ T cells

b. Increase in IL-12 production

c. Increase in IL-10 production

d. Production of IgG4

e. Decreases in IL-9
Correct
Question 10
A patient is currently in the maintenance phase of allergen immunotherapy and last received her dose 7 weeks and 3 days ago (she was scheduled to get her dose 24 days ago). What would be the next recommended dose?

- a. Continue schedule (go to next dose)
- b. Repeat the previous dose
- c. Reduce dose to 25% of previous dose
- d. Reduce dose to 50% of previous dose
- e. Re-start immunotherapy build-up from the 1:1000 bottle

Correct

Question 11
Which one of the following pollen allergens should not be mixed together in an immunotherapy vial?

- a. Ragweed and Alternaria
- b. Aspergillus and cat
- c. Dust mite and June grass
- d. June grass and Curvularia
- e. Birch and Ragweed

Correct

Question 12
A 42 year old with severe ocular and nasal symptoms not responding to medical therapies during the spring and summer seasons presents with the following positive skin tests: birch, alder, hazel, maple, june grass, timothy grass, and orchard grass. Which of these extracts should be included in this patient’s immunotherapy prescription?

- a. Birch, maple, june, timothy, and orchard
- b. Birch, alder, hazel, and timothy
- c. Birch, alder, hazel, maple, june, timothy, and orchard
- d. Maple and timothy
- e. Birch, maple, and timothy

Correct

Question 13
Which of the following preservatives/adjuvants provides the greatest antibacterial activity in immunotherapy preparations?

- a. Phenol
- b. Glycerin
- c. Human Serum Albumin (HAS)
- d. Aluminum Hydroxide (Alum)
- e. Buffered saline

Correct

Question 14
A 17 year-old patient with ocular and nasal allergy symptoms that are troublesome year round but worsen in the fall season has had a suboptimal response to allergy medications and is interested in allergen immunotherapy. Her skin tests are positive to DF mite and short ragweed. Which of the following would be the most appropriate allergen immunotherapy maintenance dose?

- a. 1000 AU DF mite and 1000 AU short ragweed
b. 1000 AU DF mite and 2000 PNU short ragweed

c. 10,000 AU DF mite and 20,000 PNU short ragweed

d. 100 AU DF mite and 1000 BAU short ragweed

e. 1000 µg DF and 1000 µg of short ragweed

Correct

Question 15
When is the best time to initiate immunotherapy during pregnancy?

a. During the first trimester

b. During the second trimester

c. During the third trimester

d. Immunotherapy shouldn’t be initiated during pregnancy

e. Immunotherapy shouldn’t be initiated in women of childbearing age

Correct

Question 16
What is the approximate risk of death after receiving an allergen immunotherapy injection?

a. 1 in 10,000,000 injections

b. 1 in 5,000,000 injections

c. 1 in 2,500,000 injections

d. 1 in 1,000,000 injections

e. 1 in 100,000 injections

Correct

Question 17
According to the practice parameters what is the recommended amount of time a patient should stay in the office/clinic after an immunotherapy injection?

a. 60 minutes during build-up phase, 30 minutes during maintenance phase

b. 60 minutes during build-up phase, 60 minutes during maintenance phase

c. 30 minutes during build-up phase, 30 minutes during maintenance phase

d. 30 minutes during build-up phase, 15 minutes during maintenance phase

e. 30 minutes during build-up phase, no wait during maintenance phase

Correct

Question 18
Which of the following is considered to be in the effective maintenance dose range for cat allergen (fel d 1)?

a. 5 µg

b. 15 µg

c. 15 BAU

d. 10,000 BAU

e. 1,000 PNU

Correct

Question 19
Ten minutes after receiving 0.3 cc of a 1:10 dilution of a weed/grass mix of immunotherapy, the patient develops widespread hives and mild wheezing that responds to treatment with diphenhydramine and epinephrine. This is the patient's first reaction to an immunotherapy injection. The patient would like to continue with immunotherapy, what would be the next appropriate dose?

- a. 0.4 cc of a 1:10 dilution
- b. 0.3 cc of a 1:10 dilution with diphenhydramine pretreatment
- c. Completely discontinue immunotherapy
- d. 0.3 cc of a 1:100 dilution
- e. 0.3 cc of a 1:1000 dilution

Correct

Question 20
Which of the following colors universally represents the 1:10 dilution bottle when mixing allergen immunotherapy?

- a. Green
- b. Red
- c. Gold
- d. Blue
- e. Black

Correct