

## Sample questions for EAACI-UEMS exam:

### I) Type A question

- one answer is correct, 4 or 5 answers to choose from
- this type represents about 2/3 of all questions)

1. In addition to the well-established Th1 and Th2 subsets recently so-called Th17 cells were described. Which cytokines are being released in high amounts by these subsets?  
  
(A) Th1: Interferon-alpha, Th2: IL-15, Th17: IL-17  
(B) Th1: IL-1, Th2: IL-2, Th17: IL-17  
(C) Th1: Interferon-gamma, Th2: IL-4, Th17: IL-22  
(D) Th1: IL-12, Th2: IL-4, Th17: IL-17  
(E) Th1: TNF-alpha, Th2: IL-6, Th17: IL-22  
Correct answer: C
2. Immunocompetent T lymphocytes are selected in the thymus. What is the fate of the T cells that have a high affinity for self-MHC?  
  
(A) Clonal expansion and migration to the peripheral lymph nodes  
(B) Clonal anergy  
(C) Migration to the peripheral lymphoid organs where they go into apoptosis  
(D) Deletion in the thymus via induction of apoptosis  
(E) Homing to the bone marrow as part of a feed back loop  
Correct answer: D
3. Recognition by T cells is a very important tool for any response to a certain antigen. How does the T cell recognize antigen?  
  
(A) The T cell recognizes antigen via pattern recognition receptors.  
(B) The T cell recognizes antigen via the T cell receptor for antigen (TCR), whereby for every antigen there is already a specific receptor coded at the level of DNA.  
(C) The T cell recognizes antigen via the T cell receptor for antigen (TCR), which has a high diversity generated at the level of DNA.  
(D) The T cell receptor recognizes antigens via binding to membrane-bound IgD antibodies.  
(E) The T cell receptor recognizes antigens via the CD3 structure  
Correct answer: C
4. Parents approach you with a 6-year old boy. He shows quite extensive Eczema. You can also find numerous small petechia on careful investigation. Finally you detect low levels of IgM. All these findings together make you think of  
  
(A) Selective deficiency of IgM  
(B) Hyper-IgE syndrome  
(C) Wiskott-Aldrich syndrome  
(D) DiGeorge syndrome  
(E) CD40L and/or CD40 deficiency  
Correct answer: C
5. A 31 years old patient suffers from increasing weakness, mainly in the legs, dyspnoe and arthritis. A chest X-ray reveals signs of advanced lung fibrosis. On the dorsal

hands you can observe some small papules symmetrical on both hands. What syndrome is the most probable?

- (A) Sarcoidosis
- (B) SLE (systemic lupus erythematosus)
- (C) Sneddon syndrome
- (D) Sjögren disease
- (E) Jo-1 syndrome (anti synthetase syndrome)

Correct answer: E

6. A 40 year old male patient complains of recurrent sinusitis, cough, weight loss, myalgia and occasional hemorrhagic rhinorrhoe. Which of the following antibodies may support your suspicion of Wegener's disease?

- (A) ds DNA
- (B) cANCA
- (C) pANCA
- (D) Phospholipid
- (E) centromer

Correct answer: B

7. A 18 year-old atopic man with recurrent urticaria and collapse during or shortly after physical activity correlates the symptoms to the consumption of pizza with tomatoes, cheese, ham and mushrooms (button mushrooms). Usually he tolerates pizzas of the same brand without any symptoms. Which is the most likely diagnosis for this patient?

- (A) Allergy to tomato
- (B) Food-dependant exercise-induced anaphylaxis
- (C) Allergy to lupine flour
- (D) Allergy to pork-albumin
- (E) Mushroom allergy (button mushrooms)

Correct answer: B

8. You are lecturing to teachers about the risk of hymenoptera allergy. How do you explain at what season which stings are the most common? Hymenoptera stings occur most often

- (A) By vespids in spring and summer, by honey bees in summer and fall
- (B) By vespids and honey bees in summer and fall
- (C) By honey bees in spring and summer, by vespids in summer and fall
- (D) By vespids and honey bees in spring and summer
- (E) By vespids in spring, by honey bees in fall

Correct answer: C

9. Accidental digital injection of adrenaline from an auto-injector device occurs in about 1 out of 50,000 sold syringes. What kind of treatment would you consider as the most effective one?

- (A) Nitroglycerine oral
- (B) Beta-blocking agent oral
- (C) Lidocaine 2% s.c. (around injection site)
- (D) Warm water bathing (60 minutes)
- (E) Alpha-adrenergic antagonist (phentolamin) s.c. (around injection site)

Type

Correct answer: E

10. Immunostimulatory sequences (ISS) that are experimentally used with immunotherapy as adjuvants, exert their action via
- (A) Toll-like receptor 9 on antigen presenting cells (APC)
  - (B) Toll-like receptor 1 on antigen presenting cells (APC)
  - (C) CD14 on monocytes/macrophages
  - (D) CD80 on dendritic cells
  - (E) CD28 on T cells
- Correct answer: A
11. Sublingual IT (SLIT) has different side effects than subcutaneous IT (SCIT). Which is the most common side effect of SLIT that you should mention to patients?
- (A) Rhinitis
  - (B) Oral itching and swelling
  - (C) Vomiting
  - (D) Diarrhea
  - (E) Anaphylaxis
- Correct answer: B
12. Perioperative anaphylaxis is probably underestimated problem due to a high dark number of undiscovered or unreported cases. According to the study of the Danish Anesthais Allergy network, which drug/compound/device is the main cause of perioperative anaphylaxis?
- (A) Antibiotics
  - (B) Neuromuscular blocking agents
  - (C) Plasma expanders
  - (D) Latex containing material
  - (E) Chlorhexidine containing antiseptics
- Correct answer: B
13. A 54-year old patient treated with Cisplatin for breast cancer develops anaphylaxis. Cisplatin i.d. test result is positive. Because the patient needs further treatment cycles, you are asked about desensitization with platinum salts. Which of the following statements about this desensitization is correct?
- (A) It is not possible with platinum salts, but may be performed with nickel chloride (NiCl).
  - (B) It is possible and often successful but needs to be repeated before each treatment cycle.
  - (C) It is possible but success rate is low (<30 %); therefore often other alternative drugs are needed.
  - (D) It will go along with loss of skin test reactivity, which helps to monitor success.
  - (E) It is possible, but severe (anaphylactic) reactions are too frequent and occasionally lethal to recommend this procedure.
- Correct answer: B
14. A patient develops an anaphylactic shock after amoxicillin. The allergological work up reveals a positive intradermal skin test to amoxicillin, BPO-PLL and MDM-PLL. What is the chance that he makes an anaphylactic reaction to a cephalosporine?
- (A) <1 %
  - (B) 4 - 11 %
  - (C) 23 - 31 %
  - (D) 42 - 65 %
  - (E) >75 %
- Correct answer: B

15. A 21-year-old female patient develops repeatedly severe anaphylaxis after hazelnut and to Prunoideae (e.g. apricot, peach). Sensitization to which allergen is quite frequently associated with such severe reactions?

- (A) 2S albumin allergen
- (B) Cross reactive carbohydrate determinants
- (C) Allergen homologous of Bet v 1
- (D) Allergen homologous of Phl p1
- (E) Lipid transfer protein (LTP) like Pru p3

Correct answer: E

16. A 19-year-old boy is looking for your help as he suffers from urticaria since more than a year. He reports that the wheals and flares are persisting long. Marking the lesions with a pen, in fact the wheals do not move within 24 hours. The most likely diagnosis in this patient is

- (A) Cold urticaria
- (B) Delayed pressure urticaria
- (C) Urticarial vasculitis
- (D) Contact urticaria
- (E) Cholinergic urticaria

Correct answer: C

17. A 22-year-old woman was referred to the clinic with a history of three episodes of lip swellings for the last year. There is no obvious trigger for her swellings. The swellings lasted for 2-4 days. She was not on any regular medications apart from oral combined contraceptive for the last year. Her mother had recurrent angioedema since puberty. On examination, she had normal concentration and normal functional activity of C1 inhibitor (C1-INH). Allergy screening tests were not revealing any IgE-mediated sensitization. Which is the probable diagnosis in this patient?

- (A) Drug allergy to oral contraceptives
- (B) Idiopathic angioedema
- (C) Hereditary angioedema type III
- (D) Oral allergy syndrome
- (E) Exercise induced urticaria/anaphylaxis

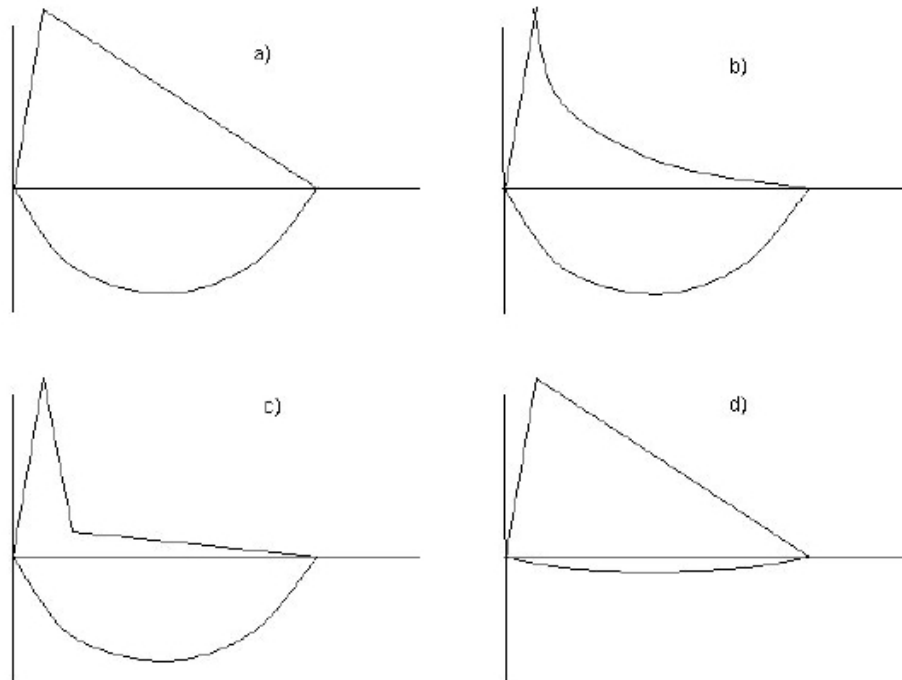
Correct answer: C

18. Eosinophilia in allergic diseases such as allergic rhinitis or asthma is driven by allergen-activated Th2 cells. Which cytokine is the most critical cytokine mediating increased eosinophils differentiation, activation and survival?

- (A) IL-4
- (B) IL-13
- (C) INF-gamma
- (D) IL-5
- (E) Eotaxin

Correct answer: D

19. Which curve is compatible/suggestive for vocal cord dysfunction?



- (A) curve a)
- (B) curve b)
- (C) curve c)
- (D) curve d)

Correct answer: D

20. This 3 week-old boy came with his atopic mother because of this localized eczematous lesion in the neck region in close relation to a metallic push button. What is your most likely diagnosis?

- (A) Seborrheic eczema
  - (B) Psoriasis
  - (C) Topic dermatitis
  - (D) Contact eczema
  - (E) Irritant contact dermatitis
- Correct answer: D



## II) Kprim question (4 answers (+ or -) to be given)

To each question or incomplete statement there are four answers or statement completions. Decide of each of those four parts whether they are correct or incorrect and mark them accordingly with a (+) or (-).

Independent of the grammatical formulation of the question in singular or plural, 1, 2, 3, 4 or none of the answers may be correct.

Marking all four questions or completions correctly results in a full mark, 3 correct marks result in half a point.

Please indicate in the following statements which you consider correct (+) or not correct (-)

1. Occupational asthma is a common problem, but diagnostic measurements are sometimes limited. In what situation-specific IgE measurements are sensitive and specific diagnostic markers?

- (A) Cow-derived proteins asthma
- (B) Isocyanate induced asthma
- (C) Latex induced asthma
- (D) Persulfate asthma in hairdressers

Correct answers +/-/+/-

**if all 4 answers are correct: 1 point**

**if 3 out of 4 are correct: 1/2 point**

Reference:

Lemière C., Biagini R.E., Zeiss C.R.. Immunological and inflammatory assessments in Asthma in the work place. Bernstein IL, Chan Yeung M, Malo JL., Bernstein DI. Eds Taylor Francis New York London, 1 vol., 2006, 875 p, pp 179-191

2. In many autoimmune diseases autoantibodies play a causative role. Which mechanism(s) are pathogenetically relevant?

- (A) Antibody-initiated complement-mediated cell lysis
- (B) Formation of antigen-antibody complexes and local recruitment of granulocytes via Fc-IgG receptor engagement
- (C) Antibody mediated blockade of receptors on the surface of cells
- (D) Blockade of DNA synthesis by anti-DNA antibodies

Correct answer +/+/+/-

3. A woman, 36 years old, presents poorly controlled asthma and peripheral eosinophilia. She also has repeated episodes of cough and purulent sputum. The chest radiograph reveals transient pulmonary infiltrates. Which of the following criteria allow(s) the etiological diagnosis?

- (A) Central bronchiectasis with absence of distal bronchiectasis
- (B) Late skin reactivity to *Aspergillus fumigatus*
- (C) Elevated specific IgE to *Aspergillus fumigatus*
- (D) Total serum IgE < 300 kU/l

Correct: + / - / + / -

4. Cytotoxic T cells play an important role in cellular defence. Which of the following mediators is/are used to kill target cells?

- (A) Perforin
- (B) Complement split products C5b-C9

(C) Granzyme B  
(D) IFN-gamma  
Correct: -/+ / - / +

5. A 29 years old female patient is stung by an unknown insect and reacts with asthma and urticaria. Allergologic work up reveals both, intradermal tests and specific IGE against honey bee and wasp strongly positive. What is/are the main cause(s) of in vitro double-positivity to honeybee and vespula venoms (specific IgE to both honeybee and Vespula venoms)?

(A) True double sensitization  
(B) Cross-reactivity between venom hyaluronidases  
(C) Cross-reactivity through glycoprotein carbohydrates (CCDs)  
(D) Cross-reactivity to mellitin

Correct answer: +/+/+/-

6. A 52 year old farmer presents with a marked erythematous infiltration on the face and neck. There is a sharp upper border on the forehead due to wearing a hat. The reaction has developed after working outdoors for eight hours on the summer day. Which condition(s) should be considered in the differential diagnosis?

(A) Airborne contact dermatitis  
(B) Facial atopic eczema  
(C) Photocontact dermatitis  
(D) Solar urticaria

Correct answer: +/-/+/-

7. A 45 year old woman comes to you with a history of recurrent anaphylaxis (once after a bee sting, once after aspirin (acetylsalicylic acid, 1g). You consider mastocytosis. Which history or sign(s) do(es) support the diagnosis of a mastocytosis?

(A) Red-brownish itching skin maculae  
(B) History of ulcer duodeni  
(C) History of osteoporosis with vertebral fracture  
(D) History of recurrent venous thrombosis

Correct answer: +/+/+/-

8. Acute rhinosinusitis (fever, sore throat, pain) can be due to:

(A) Viral infections  
(B) Bacterial infections  
(C) Fungal infections  
(D) Allergic reactions

Correct answers +/+/+/-

**Good luck with the preparation and than the Exam!**

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