1) A patient with rheumatoid arthritis presents to her physician and mentions that after many years without teeth problems, she has recently developed seven caries. This is a clue to her clinician that she should be evaluated for which of the following diseases?

A. Oral squamous cell carcinoma

B. Polyarteritis nodosa

C. Sjögren's syndrome

D. Systemic lupus erythematosus

E. Thyrotoxicosis

Explanation:

The correct answer is C. Rheumatoid arthritis can coexist with a variety of autoimmune diseases (including those listed in the answers), but is most frequently associated with Sjögren's syndrome.

Sjögren's syndrome is due to autoimmune involvement with subsequent scarring of the salivary and lacrimal glands, leading to dry eyes and dry mouth. Secondary effects include parotid gland enlargement, dental caries, and recurrent tracheobronchitis.

Squamous cell carcinoma of the mouth (choice A) is not associated with dryness of the mouth.

Polyarteritis nodosa (choice B) is a systemic necrotizing vasculitis. Patients present with low-grade fever,weakness, and weight loss. They may also have abdominal pain, hematuria, renal failure, hypertension, and leukocytosis.

Systemic lupus erythematosus (choice D) is an autoimmune disease characterized by vasculitis (which may produce a variety of symptoms depending on the site of the lesion), rash, renal disease, hemolytic anemia, and neurologic disturbances.

Thyrotoxicosis (choice E) produces insomnia, weight loss, tremors, heat intolerance, excessive sweating, and frequent bowel movements or diarrhea.

6) Which of the following is a major interleukin produced by CD4+ T helper 1 (TH1) lymphocytes?

A. IL-1

B. IL-2

C. IL-4

D. IL-6

E. IL-8

Explanation:

The correct answer is B. IL-2 produced by TH1 cells stimulates natural killer (NK) cells and CD8+ T cytotoxic lymphocytes and combines with IL-2 receptors on the TH1 cells to cause "self-stimulation". IL-2 is also involved in downregulating CD4+ T helper 2 lymphocytes.

IL-1 (choice A) is derived from macrophages and is a major inflammatory molecule.

IL-4 (choice C) is derived from CD4 + T helper 2 cells. It acts to downregulate CD4 + TH1 cells and allows class switching to IgE.

IL-6 (choice D) is derived from macrophages. This molecule stimulates acute phase protein production by the liver, as well as the production of other opsonizing molecules.

IL-8 (choice E) is derived from macrophages and is a major chemotactic molecule for neutrophils.

11) A college student sitting in the stands at a football game suddenly begins breathing hard and complains to his friends of tightness in his chest. Minutes later, he is sweating profusely and faints. It is discovered that he had been stung by a bee. Paramedics arrive, assess the situation, then successfully treat the young man. Which one of the following drugs was most likely initially administered in this case?

A. Diphenhydramine

B. Blocking antibody

C. Cromolyn sodium

D. Epinephrine

E. Theophylline

Explanation:

The correct answer is D. This college student is experiencing a major anaphylactic reaction (type I hypersensitivity reaction) with associated bronchoconstriction and shock. Epinephrine is the treatment of choice for anaphylaxis. It will relax the smooth muscle of the respiratory tract and stimulate the heart to restore cardiac output. Epinephrine also prevents mast cell degranulation by increasing cyclic AMP levels.

Diphenhydramine (choice A), an H1 histamine receptor antagonist, is a good drug for mild allergic rhinitis, but would be ineffective in anaphylaxis.

Blocking antibody (choice B) is IgG antibody that has been produced by the patient in response to an allergen over a long period of stimulation (e.g., during desensitization by an allergist). This procedure is excellent for several different types of allergens, but not for a systemic material such as bee venom.

Cromolyn sodium (choice C) stabilizes mast cell membranes, thereby inhibiting degranulation and histamine release. This is an excellent drug if used to prevent an acute reaction to a known allergen, but it would not be used for an anaphylactic reaction.

Theophylline (choice E) inhibits phosphodiesterase, increasing cyclic AMP levels, and thereby inhibiting mast cell degranulation. This is an excellent drug for asthma and for long term allergy treatment especially inttt children, but would not be used for anaphylaxis.

140. Scl-70 antibody is characteristic of:
a) Systemic lupus erythematosus
b) Scleroderma
c) Dermatomyositis
d) Sjogren's syndrome

141. LE cell phenomenon is seen in:
a) Lymphocyte
b) Neutrophil
c) Monocyte
d) Eosinophil

142. Most sensitive test for screening of "Systemic Lupus Erythematosus"
a) LE PHENOMENON
b) RHEUMATOID FACTOR
c) Anti-Nuclear Factor (ANF)
d) Double stranded DNA test

143. According to WHO, the feature of class II lupus is:
a) Transient proteinuria
b) Massive proteinuris
c) Hematuria
d) RBC casts

144. ANCA antibody with peripheral rim distribution is indicative of:
a) Anti-histone antibody
b) Anti-smith antibody
c) Anti-double stranded DNA antibody
d) Anti-double stranded RNA antibody

145. Basic pathology in cystic fibrosis is:
a) Defect in the transport of chloride across epithelia
b) Defect in the transport of sodium across epithelia
c) Defect in the transport of potassium across epithelia
d) Defect in the transport of bicarbonate across epithelia

146. Besbuer Boeck Schaumann disease is also called as:
a) Sarcoidosis
b) Crohn's disease
c) Whipple's disease
d) Hodgkin's disease

140) B 141) B 142) C 143) C 144) C 145) A 146) A