

## Test yourself in childhood asthma.

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### **Choose only one answer:**

#### **1. The following are true about childhood asthma except:**

- a- As many as 7-15% of children worldwide may have asthma at some time during childhood.
- b- A child with an asthmatic parent has a 25% risk of having asthma.
- c- Before puberty, twice as many girls as boys are affected.
- d- Bronchoconstriction with exercise is concordant in identical but not in dizygotic twins.

#### **2. The following anatomic and physiologic peculiarities are present in infants' airways except:**

- a- Mucous gland hyperplasia in major bronchi.
- b- Narrow peripheral airways up to 5 years of age.
- c- Increased elastic recoil of the lung.
- d- Highly compliant rib cage.
- e- Deficient collateral ventilation.

#### **3. One of the following is true about bronchial asthma:**

- a- Elevated serum total IgE has no relation to severity or persistence of symptoms.
- b- Eczema is frequently associated with subsequent appearance of asthma.
- c- Patients with mild intermittent asthma never develop severe life threatening attacks.
- d- Allergen-avoidance in early life does not slow the allergic march.

#### **4. One of the following is false about bronchial asthma:**

- a- A breast fed infant can become sensitized to food antigens that are transmitted in breast milk.
- b- Home air conditioning helps to control humidity and is recommended for asthmatics.
- c- Wheal and flare reaction on skin testing does not indicate that the patient will necessarily have clinical symptoms on exposure to the allergen.

- d- Eosinophilic count is subject to a diurnal rhythm, their numbers being highest in the afternoon.
- e-  $\beta$ 2-agonists may produce hypokalemia in large doses.

#### **5. Mark the correct statement:**

- a- Interferon- $\gamma$  is a T-helper 2 cytokine that stimulates IgE production.
- b- The low-affinity IgE receptors (CD 23) are present mainly on mast cells and basophils.
- c- IL-4 can inhibit the production of interferon- $\gamma$ .
- d- IL-5 inhibits eosinophil differentiation.
- e- IL-13 inhibits IgE production from B cells.

#### **6. Mark the incorrect statement:**

- a- Human mast cells lack serotonin.
- b- Eotaxin is a chemokine that initiates eosinophil chemotaxis and activation.
- c- Bradykinin causes increased vascular permeability.
- d- PAF decreases bronchial hyper-responsiveness.
- e- IgE level can be elevated in infectious mononucleosis.

#### **7. The signs of severe asthma exacerbation include all of the following except:**

- a- Dyspnea at rest.
- b- Pulse rate 90/min.
- c- Pulsus paradoxus may be present (20-40 mmHg).
- d- Peak expiratory flow rate < 50%.

#### **8. Respiratory failure during asthma exacerbation can be clinically suspected by:**

- a- Drowsiness.
- b- Paradoxical thoraco-abdominal movements.
- c- Absent wheeze.
- d- Bradycardia.
- e- Absent pulsus paradoxus.
- f- All of the above.

**9. In moderate persistent asthma:**

- a- No medications are needed in-between attacks.
- b- Symptoms < 2 times / week.
- c- Night symptoms > 1 time/week.
- d- Peak Expiratory Flow Rate < 60 % of normal.

**10. The following agents are indicated during acute attacks except:**

- a- Short acting  $\beta_2$  agonist by metered dose inhaler.
- b- Ipratropium bromide.
- c-  $O_2$  therapy.
- d- Nedocromil Na.
- e- Systemic steroids.
- f- I.V. theophyllin.

**11. The dose of oral salbutamol is:**

- a- 0.15 mg/kg/day in 2 divided doses.
- b- 1.5 mg/kg/day in 3 divided doses.
- c- 1.5 mg/kg/dose 3 times daily.
- d- 0.15 mg/kg/day in 3 divided does.

**12. The following are true about ipratropium bromide except:**

- a- Anticholinergic agent that antagonizes the action of acetylcholine at muscarinic receptors.
- b- Can be used in children > 5 years of age during severe airway obstruction.
- c- It crosses easily the blood brain barrier.
- d- The dose is 250  $\mu$ g inhaled up to 3 times at 20 min intervals during acute exacerbation.

**13. The following antihistamines are non-sedating except:**

- a- Cetirizine.
- b- Fexofenadine.
- c- Promethazine.
- d- Terfenadine.
- e- Loratadine.

**14. Leukotriene receptor antagonists:**

- a- Can be used as a sole line of therapy during acute attacks.
- b- In severe persistent asthma, it is given every 6 hours.
- c- Mostly indicated in mild and moderate persistent asthma.

- d- Cannot be given with inhaled steroids in the same patient.

**15. All are true about theophyllin except:**

- a- The dose of constant I.V. infusion at the age of 10 years is 5 mg/kg/hr.
- b- The peak serum concentration during infusion should not exceed 10  $\mu$ g/ml.
- c- Sustained-release theophyllin can be used in the maintenance regimen of moderate to severe cases.
- d- The dose of long acting theophyllin is 20 mg/kg/day in 2 divided doses.

**16. In the maintenance therapy of childhood asthma:**

- a- Inhaled steroids are indicated in mild intermittent asthma.
- b- Na cromoglycate is the best maintenance therapy for severe persistent asthma.
- c- Long-acting  $\beta_2$ -agonists may be used in moderate to severe persistent asthma.
- d- Short-acting  $\beta_2$ -agonists are suitable for daily maintenance therapy in mild persistent cases.

**17. The following medications are indicated in exercise induced asthma except:**

- a-  $\beta_2$ -agonist inhalation immediately before exercise.
- b- Salmeterol 30 min before exercise in children  $\geq$  12 years of age.
- c- Chlorpheniramine maleate shortly before exercise.
- d- Sodium cromoglycate shortly before exercise.
- e- Leukotriene antagonists once daily.

**18. The following are recommendations of allergy prevention programs except:**

- a- Delayed introduction of solid foods till the age of 6 months.
- b- Elimination diet during pregnancy.
- c- Non-traumatic delivery.
- d- Prevention of passive smoking in mothers-to-be.
- e- House dust allergen control.

**19. The following are true about anti-IgE antibody therapy in asthma except:**

- a- It blocks the site of IgE interaction with its high affinity receptors.
- b- Allergen non-specific and can block any IgE molecule.
- c- Prevents airway hyperreactivity to irritants.

- d- The dose is adjusted according to the serum IgE level in allergic asthma.

**20. The following may exacerbate asthma or make it difficult to treat:**

- a- Gastro esophageal reflux.
- b- Allergic bronchopulmonary aspergillosis.
- c- Non-steroidal anti-inflammatory agents.
- d- Sinusitis.
- e- All of the above.

(Answers in page 74)