CONTINUING MEDICAL EDUCATION EXAMINATION

Group 2 Innate Lymphoid Cells: New Players in Human Allergic Diseases

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CME Items

1. Which of the following describes ILC2s correctly?
   a. Specialized innate T cells that produce Th2 cytokines
   b. A novel natural killer T-cell subset that produces IL-5 and IL-13
   c. Lineage-negative lymphocytes that produce high levels of Th2 cytokines
   d. A subset of basophils that produce IL-4

2. Which of the following statements is correct?
   a. Lineage-negative means that ILC2s are from a previously undescribed and novel lineage
   b. Lineage-negative means that ILC2s do not express lineage surface markers known for T cells, B cells, NK cells, and other known lineage cells
   c. Lineage-negative means that ILC2s can be identified by a specific surface marker that is unique for this cell type
   d. Lineage-negative means that the ILC2 precursor is not found in the bone marrow

3. All of the following transcription factors are critical for ILC2 development except:
   a. T-bet
   b. GATA-3
   c. Notch
   d. IL-7R

4. Which of the following mediators are produced by ILC2s?
   a. IL-33
   b. Cysteinyl leukotrienes
   c. IL-5
   d. TSLP

5. Which of the following receptors are expressed by human ILC2s?
   a. CRTH2 that binds prostaglandin D2
   b. CRTH2 that binds to cysteinyl leukotrienes
   c. T1/ST2 that binds to IL-25
   d. T1/ST2 that binds to TSLP

6. All of the following lipid mediators have been shown to modulate ILC2 function except:
   a. Cysteinyl leukotrienes
   b. Prostaglandin D2
   c. Lipoxin A4
   d. Prostaglandin E1

7. Which of the following is correct?
   a. ILC2s from the lungs of asthmatics have been shown to produce high levels of IL-5 and IL-13
   b. ILC2s from the peripheral blood of asthmatics have been shown to produce high levels of IL-5 and IL-13
   c. Peripheral blood ILC2s have been shown to be increased in severe asthmatics compared with mild asthmatics
   d. Lung ILC2s have been shown to be increased in severe asthmatics compared with mild asthmatics

8. Mouse models of asthma have shown that ILC2s contribute to all of the following except:
   a. Airway hyperresponsiveness
   b. Lung eosinophilia
   c. Tissue repair
   d. Smooth muscle hypertrophy

9. With regard to ILC2s in chronic rhinosinusitis and allergic rhinitis, which of the following is correct?
   a. ILC2s have been detected at higher levels in eosinophilic nasal polyps compared with noneosinophilic polyps
   b. Increased ILC2s have been found in the blood of pollen-allergic individuals during the pollen season
   c. Increased ILC2s have been found in the blood of cat-allergic individuals after cat allergen challenge
   d. All of the above

10. Which of the following ILC2 regulatory mechanisms studied in human atopic dermatitis can control levels of skin inflammation?
    a. E-cadherin binds to KLRG-1 expressed on ILC2s leading to ILC2 activation
    b. E-cadherin binds to KLRG-1 expressed on ILC2s leading to inhibition of ILC2 activation
    c. KLRG-1 binds to E-cadherin expressed on ILC2s leading to ILC2 activation
    d. KLRG-1 binds to E-cadherin expressed on ILC2s leading to inhibition of ILC2 activation